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California Group Strikes Back at Unwanted Weeds

Conference Talks In Sacramento Cover Chemical Controls

SACRAMENTO — Noxious plants which rob crops of water, nutrients and growing space received the concentrated attention of 365 farmers, agricultural officials, engineers and scientists at the 12th annual California Weed Conference held here Jan. 19-21.

In three days of meetings at Sacramento's Memorial Auditorium, emphasis was given to the conference theme of "Weeds Are Everybody's Business" by the reports of county, state and federal weed experts pointing to California's $300,000,000 annual weed loss.

William E. Warne, newly-appointed California director of agriculture, told the opening session that California is in a unique position to meet the problems of weed damage and control costs through advances in control techniques and special control programs.

"It is only logical to assume," Mr. Warne said, "that with such a diversity of soil and climatic conditions, and with crops growing so well, there would be an abundance of weeds.

"By improved control techniques and control programs carried on by counties, the State Department of Agriculture and the University of California are capable of meeting the weed problems."

Opinions at the conference as to what constitutes a weed were almost as numerous as delegates. However, the weed control committee of the California State Chamber of Com-

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November Super Production Tops Same '58 Month

WASHINGTON — U.S. November production of superphosphate and other phosphatic fertilizers amounted to 220,762 short tons, compared with 211,183 short tons for the similar month in 1958, reported the Bureau of the Census, U.S. Department of Commerce.

Shipments during the month totaled 131,522 short tons or an increase of 6% over the volume shipped during the corresponding month in 1958. Stocks held by producing plants at Nov. 30, 1959 totaled 329,903 short tons, or 13% more than those held on Oct. 31, 1959.

Fertilizer Trade Eyes Arrival of Two Russian Ships Bearing Potash

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON—The expected arrival of two shiploads of Russian potash at Norfolk, Va. and Jacksonville, Fla. has caused some comment in the trade and speculation as to the significance of these imports. The two cargoes, estimated to total some 12,000 tons, are expected to be distributed in the U.S. at prices estimated to be from $2 to $4 under domestic quotations.

At first labeled a rumor, the fact of the arrivals has been confirmed by several trade sources, although there was less certainty about the price setup. Some tradesmen said they were inclined to doubt the discount of the Russian potash as being as much as earlier stories indicated.

Although the news of Russian potash arriving in the U.S. is not of the type to cause dancing in the streets by industry people, the situation may not be as ominous as might appear on the surface. The unlikelihood of a deep discount is one encouraging note. Another is that reports made some months ago that Russian potash had been consigned to Chicago via the St. Lawrence Seaway failed to materialize.

In connection with the earlier stories concerning a possible Chicago destination for Iron Curtain potash, the ship was to be returned with American phosphate rock for European distribution. This, too, failed to come about. However, current speculation on the arrival of two ships at Atlantic ports has said nothing about return shipments of phosphate rock to Russia.

There is also a question about the quality of the Russian product, one U.S. trade observer said. He predicted that it may be necessary "to put

(Turn to RUSSIAN POTASH, page 8)

Use of Chemicals for Fertility, Weed and Insect Control Stressed at Cotton Meeting

MEMPHIS, TENN. — The importance of controlling insect pests and adequate fertilization of cotton were stressed by speakers at the Beltwide Cotton Production - Mechanization Conference held at the Peabody Hotel here Jan. 14-15. These two considerations were given prominence as part of the conference theme: "Growing Quality Cotton Efficiently."

Dr. E. F. Knipling, director of the entomology research division, Agricultural Research Service, U.S. Department of Agriculture, Beltsville, Md., outlined details of the most "intensive research program ever activated to deal with an insect problem." He referred to the plans for a greatly expanded boll weevil research program, contracts for which may be let by May, 1960, he said. The laboratory is expected to cost $1.1 million and may be ready for occupancy by June 1, 1961.

Dr. Knipling said it is hoped that some of the facilities will be available to start research several months prior to this date. The exact timetable can't be projected since operating funds have not been appropriated.

If funds are provided, major areas of work at the laboratory will include research on insect control chemicals, varieties of cotton to resist boll weevil attack, biological control, and basic and supporting investigations.

Dr. Knipling said there is an immediate urgency to strengthen chemical research to develop new, effective, and safe insecticides, pointing out the continuing threat of resistant insect strains justifies the high priority.

Research to develop resistant cotton varieties has been judged one of the most neglected areas, he said.

The speaker said a committee of scientists active in cotton insect research will be established to help guide the program. "Every effort will be made to cooperate closely, not only with the state of Mississippi but with other states engaged in cotton insect research."

He emphasized the need for strengthening research at other state and federal labs to round out a more effective program. First objective of the program, he said, will be to reduce the $300 million an-

(Turn to COTTON, page 20)

'Sell Soil Fertility Program, Not Just Fertilizer' Is NPFI Workshop Theme

HERSHEY, PA.—Selling a mental concept—a soil fertility program—as opposed to just selling fertilizer was the theme of the National Plant Food Institute's Northeast Fertilizer Promotion Workshop Jan. 21.

The session, the third of three experimental meetings authorized by the NPFI's board of directors, was held in Hershey.

Devoted to a discussion of sales tools and customer motivation, the meeting attracted some 150 representatives and dealers of NPFI members.

Presentations included the potential of fertilizer use in the Northeast, fertilizer economics and sales tools currently available.

The effective psychological approaches to farmer-customers received special emphasis.

Dr. H. R. Albrecht, director of the extension service, Pennsylvania State Univeristy, gave the opening remarks, and Dr. Russell Coleman, NPFI executive vice president, explained the purpose of the workshop.

Dr. Albrecht noted the similarity of goals between the dealers and the extension service, with the dealers selling fertilizer and the service selling a fertilizer program.

"But you (dealer) can't sell fertilizer nor we a program if there isn't a real future to be seen in the agriculture of the Northeast," he said. "Our farms are becoming fewer and in most of the northeastern states the number of people living on farms falls below 5% of the population of the particular state. Many people already have concluded that agriculture

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Dealers, Industry Representatives at Washington Meeting

By JOHN ULRICH
Croplife Special Writer

PASCO, WASH.—About 75 dealers and 15 industry representatives attended the annual Central Washington Fertilizer Conference here Jan. 25 under the sponsorship of the Pacific Northwest Plant Food Assn.

The meeting, held in cooperation with Washington State University, had as chairmen, Scott Hanson, Yakima, Collier Carbon & Chemical Co. representative, and C. B. Hartson, WSU extension service. Lyle Neff, Pasco, Agriform Company of Washington, was in charge of local arrangements.

Taking a turn as speaker Mr. Hartson told the dealers of the great potential for fertilizers in the growing irrigation areas of the Yakima valley and Columbia Basin project of Central Washington. Using produc-

(Turn to CONFERENCE, page 21)

Minor Elements, Bank Financing, Use of Herbicides on Nebraska Institute Agenda

LINCOLN, NEB.—Some 700 persons were in attendance at the Nebraska Fertilizer Institute meeting here Jan. 12-13. The gathering, comprising the tenth annual fertilizer dealers training conference and the third annual fertilizer, machinery and chemical exposition, heard talks on the supply situation for 1960, financing fertilizer sales, and use of pre-emergence herbicides. In attendance were suppliers, dealers and consumers from Nebraska and surrounding areas.

Speaking on fertilizer dealer financing, Robert Voss, vice president of the First National Bank of Fremont, Neb., stated that dealers should operate on a margin wide enough to allow them to grant a 5% discount on cash purchases.

Two speakers covered the subject of "Who Uses the Fertilizer?" They were A. V. Nordquist, Nebraska Division of Agricultural Statistics and Clinton Hoover, extension agronomist at the University of Nebraska. Minor elements were discussed by R. A. Olson, professor of agronomy at the University. He pointed out the need for more research in the reaction of plants to these minor elements as well as the physiology of the plant. Some plants, he said, have shown a definite need for certain minor elements.

Control of insects on corn was the topic of Robert E. Simpson, extension entomologist, while a panel discussed provisions of the Food and Drug Act concerning the use of agricultural chemicals. Participants on this panel included Sam Fine, FDA district director; E. Crosby Howe, extension animal pathologist, University of Nebraska; and John L. Weihing, extension plant pathologist. The group told the audience that all chemicals now used in agriculture are completely safe, providing they are always applied in accordance with the manufacturer's recommendations.

A plea for more extensive use of soil testing, more and better demonstration plots and more intensive educational programs for farmers was made by Delno Knudsen, assistant extension agronomist at the University of Nebraska. He indicated also that Nebraska soils need more phosphate than they usually receive in fertilizer applications.

Orvin C. Burnside, assistant professor of agronomy at Nebraska, in reporting on the use of pre-emergence herbicides, said that application of such chemicals in the state has proved successful and has contributed to increased yields in row crops.

The various groups represented at the meeting elected officers and members of their respective boards.

Clay Westcott, Holdrege, Neb., Lyle Barndt, South Sioux City, and George Tyson, Herman, Neb., were elected to serve three year terms on the board of the Nebraska Fertilizer Institute. The directors also set tentative dates for the 1961 exposition. They said it would be held at Lincoln next January.

A social hour followed by a banquet was held at the Hotel Cornhusker, with some 300 in attendance. John C. Steele, associate extension agricultural engineer, University of Nebraska, presented a pictorial talk on his two-year stay in Turkey. Mr. Steele discussed problems involved in the Turkish agricultural situation.

LIQUID GROUP FORMED

LINCOLN, NEB.—Organization of the "Liquid Fertilizer Division" of the Nebraska Fertilizer Institute, Inc. was effected at the Institute's recent annual meeting here. Five directors were named. They are Tom Walsh, York, Neb.; Mel Beermann, Dakota City, Neb.; Roy Block, Gothenburg, Neb.; George Tyson, Herman, Neb.; and Clay Westcott, Holdrege, Neb.

Eastern Idaho Fertilizer Group Elects Officers

IDAHO FALLS, IDAHO — The Eastern Idaho Plant Food and Chemical Assn. met recently in Idaho Falls to elect new officers for the coming season. Seventy dealers and distributors were on hand for the business-banquet meeting.

Jack Wursten, Simplot Soil Builders, was elected president. Wilbur Brown, Rogers Bros., was elected vice president and Lyle Whiting, Jefferson Cooperative, was reelected secretary-treasurer.

Board of directors' members elected were Jim Wakman, Idaho Falls Farm and Home Store; Ray Payne, Rexburg Coal & Feed; Afton Remington, J. J. Remington Co.; Bob Ewing, Farmers Cooperative Oil; Theo Dance, Bingham Cooperative, and Rulon Trees.

The primary objectives of the Idaho association are to sponsor educational program to expand the use of commercial fertilizer and farm chemicals and to encourage the enactment and interpretation of laws to benefit the industry, the group states.

Ben McCollum, sales manager for J. R. Simplot Co., told the assembled dealers that the supply of some fertilizer materials might be a little short if the weather opened up and sales hit a peak in all of the Idaho areas at the same time.

F. Todd Tremblay, regional director of the National Plant Food Institute, gave the members a brief summary of the objectives of the national organization. He stated that the NPFI had been working closely with the Idaho Extension Service on soil and leaf analysis surveys in the southern Idaho areas. "This type of a program will be carried on in the eastern Idaho area in 1960," Mr. Tremblay stated.

Mr. Wursten, new association president, emphasized the need for closer cooperation among the dealers to expand the market. "The extension service indicated that the farmers in our area are only using 50% of the fertilizer needed for efficient production. It is up to our association to help sell the story of proper fertilizer use," Mr. Wursten said.

STORE OPENS

TIFTON, GA. — Insecticides will form a major part of the merchandise stock of the new Pat's Seed and Feed store which has just been opened in Tifton. Feed and seed will also be carried. Owner of the firm is Pat Walls, formerly production manager of California Spray-Chemical Corp. in Tifton. The store contains about 1,500 sq. ft. of space.

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Intermountain Meadow, Range Fertilizer Conference to Be Held in Colorado

SAN FRANCISCO—The Intermountain Meadow and Range Fertilization Conference—the first of its kind—will open on Friday, Feb. 19, at Colorado State University's Student Union Building, announced Dr. Richard B. Bahme, western regional director of the National Plant Food Institute, co-sponsor of the conference with the Colorado Cattlemen's Assn.

"This fertilization conference is being held in conjunction with the annual meeting of the Colorado Section of the American Society of Range Management (ASRM), to continue the following day," Dr. Bahme said.

Dr. Donald Hervey, president of the ASRM and head of the Colorado State University Department of Range Management, will officially welcome ranchers, range managers, official agricultural workers, and fertilizer industry representatives to the conference on the morning of Feb. 19.

"Anyone interested is welcome to attend, and there is no registration fee," according to Dr. Bahme.

Dr. Bahme, Robert Searway, chairman of the Colorado Section of the ASRM, and Otto Maul, president of the Colorado Cattlemen's Assn., will make other introductory remarks. Highlighting the no-host luncheon will be an address by Dr. Merton Love of the University of California, past president of the California section of the ASRM. His topic is "The Challenge of Our Range and Wildlands."

Other presentations of interest in the intermountain area are: "Mountain Meadow Fertilization"—Forrest Willhite, Agricultural Research Service, U.S. Department of Agriculture, Grand Junction, Colo.; "Economics of Mountain Meadow Fertilization"—Dr. Elmer Hunter, ARS, USDA, Fort Collins, Colo.; "Rancher Results from Meadow Fertilization"—R. D. Anderson, Soil Conservation Service, USDA, Denver; "Why Do We Fertilize Mountain Ranges?"—Dr. Dixie Smith, University of Wyoming, Laramie; "Improvement of Palatability, Composition, and Yield of Crested Wheat Grass Range"—Roy Miller, Agricultural Experiment Station, Fort Collins; "Range Fertilization Progress on Colorado Native and Reseeded Ranges"—Dr. Don Hervey, Colorado State University, Fort Collins; "Increased Forage and Beef Production from Fertilization"—Dr. Roy Lipps, U.S. Steel Corp., Salt Lake City, Utah; "Holland Ranch Fertilization Results"—Ralph Holland, Laramie, Wyo.; "Wagnild Ranch Fertilization Results"—Don McMillan, Colorado State University, Fort Collins. Dr. Bahme will also give a showing of the NPFI film "Cash in on Grass."

Chairman of the Feb. 19 portion of the conference will be Keith B. Campbell, chairman of the NPFI's western research and education committee, agronomist for Western Phosphate in Salt Lake City.

The remainder of the conference will be devoted to professional societies, business meetings, technical papers, forestry and range management student field events, etc., and the conference will culminate with a banquet and Foresters' Ball to be held on the campus.

Fertilizer Research To Highlight Meeting

CHICAGO—The impact of research on agriculture and the fertilizer industry, "case history" reviews of intensified county soil fertility programs and a report on "The Farmer, the Dealer and Fertilizer Sales," will be among key features at the 12th annual Joint Midwestern Agronomists-Industry meeting Feb. 11-12, at the Edgewater Beach Hotel, Chicago.

Dr. George E. Smith, chairman of the University of Missouri's soils department, will preside at the two-day meeting sponsored by the National Plant Food Institute's Midwest division. Welcoming the agronomists, industry men and visitors will be J. D. Stewart, Jr., NPFI president, and Dr. Russell Coleman, executive vice president.

College scientists and members of the NPFI's Midwest research and education committee will team up in interpreting what recent fertilizer research means to the industry. An added feature of interest will be a showing of the new Institute color movie, "Bread from Stone," a documentary designed to tell the agricultural story to non-farm people.

Georgia Firm Operates Sweet Potato Plant To Promote Agriculture

VALDOSTA, GA.—Georgia Fertilizer Co. in Valdosta, Ga., has operated a sweet potato curing and marketing plant for the past three years on a lease basis from a cooperative of farmers in this area, and plans continuance of the project this year.

J. Howard Fambrough, agronomist in charge of the venture, said he expects that sweet potato production will be stepped up in 1960 in the area. He said about 2,000 acres were grown and potatoes marketed through the cooperative (in addition to scattered acreages not included) in 1959, and he feels that the acreage in the trade area may be increased to 3,500 acres in 1960. He said 25,000 bu. were processed and marketed by the fertilizer concern this past year. They were sold to the chain stores in Georgia, Florida and Alabama.

Mr. Fambrough said the growers are following a recommended program of fertilization and insecticide applications, and usually average producing about 200 bu. to the acre. The growers plant the Georgia Red and Early Sweet varieties.

The agronomist said the fertilizer concern operates the sweet potato business on a "break-even" basis, as a service toward promoting agriculture in the area and at the same time promoting the use of fertilizers produced by Georgia Fertilizer Co.

CALIFORNIA MEETING DATES

SACRAMENTO, CAL.—Dates of the 1960 annual meeting of the California Fertilizer Assn. have been announced by Sidney H. Bierly, CFA general manager as Nov. 13-15. Place of the meeting will be at the del Coronado Hotel, Coronado, Cal., he says.

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WORKSHOP

(Continued from page 1)

is destined for a minor role in the social-economic and political complex of the area.

"Nevertheless, the Northeast's utter self-insufficiency offers its greatest opportunities agriculturally. In Pennsylvania, for instance, we find market gaps (difference between production and consumption) highly favorable to the development of a stable agriculture. Some examples:

Red meat gap	1,361,000,000 lb.
Poultry meat gap ..	159,000,000 lb.
Eggs	31,110,000 doz.
Milk gap (fat-solids basis)	1,117,040,000 lb.
Potatoes	289,856,000 lb.
Apples	7,200,000 lb.

"These are only a few examples but they indicate we have lots of room to grow. We'll never become self-sufficient but we can organize through an orderly process of growth, with adequate attention given to the development of market opportunities, an agricultural industry which will be recognized as a thriving, substantial contribution to the over-all economy of the Northeast.

"All this won't be done with a soil improvement program alone, although sensible fertilizer and limestone usage obviously must be a major factor. Instead, the talents from many disciplines—from the colleges, industry, farm groups, governmental agencies—must design such courses of action as will assure our farming public of a worthwhile, satisfying future."

Dr. Coleman, addressing his remarks to fertilizer salesmen, said, "You are practical operating salesmen. If we all had time, we could find out more about selling fertilizer from you than you can find out from us—but, obviously, that is not practical. This meeting is in the nature of a graduate school. As all graduate students know, the students know much more about many things than do teachers, but teachers do have a few specialized facts or ideas to present to their students and that is why graduate schools exist and students attend them.

"In this meeting, we will present some information about those factors that are common to most good salesmen. These are: (1) knowledge of customers, and (2) knowledge of product."

"What Our Customers Want," was the title of the talk given by Raoul Allstetter, vice president, NPFI. He listed some of the following as important in selling to the farmer:

1. Farmers are looking for ways to increase production, cut costs and increase profits. In Pennsylvania one of the best ways to cut costs and increase profits is to adopt proper fertilization methods.

2. The farmers have many other items competing for their dollars, including farm machinery, insecticides, buildings and consumption items like new cars and new clothes.

3. The customer is motivated to buy fertilizer in two ways—because he consciously determines that fertilizer will help him reach certain goals by thinking and because subconsciously he feels fertilizer will help him reach certain goals by emotion.

4. Many of the customers have little formal schooling, many rely on someone else to try new things first, many have to "see to believe" and all are experts at raising objections.

5. Expected trends in Pennsylvania over the next few years are fewer farms, larger farms, better educated customers, more specialization, more service demand by the customer and more competition.

Area Potential

Dr. Howard B. Sprague, head, department of agronomy, Penn State, discussed the fertilizer potential in the Northeast.

He looked for a national population increase in the period of 1960-1975 plus increased U.S. agricultural needs.

Dr. Sprague felt that agriculture is not a declining industry because the importance of agriculture to the U.S. is determined by the number of people to be fed, clothed and supplied with agricultural products going into industry. He also felt agriculture is a rapidly changing field.

"We may experience," Dr. Sprague said, "as much change in the next 15 years as has occurred in the past 30 to 40 years.

"These changes will affect farming operations on the land, agricultural services, agricultural businesses and agricultural industries. All of these businesses and industries have a direct concern for production on the land."

As to the fate of the 12 northeastern states, he said the area will have an agricultural future depending on the efficiency with which they produce products in direct competition with other regions.

Moyle S. Williams, chief agricultural economist with NPFI, said that farmers could increase profits substantially with average management and good practices. He presented tables to show that yield possibilities in Pennsylvania were much higher than yields the farmers are presently obtaining. He said the farmer should shoot for these possible yields because it will "make him money to do so."

Merle Adams, Northeast NPFI district representative, also pointed out the value of using yield goals as a selling tool.

"Many northeastern farmers are taking yield cuts of 40 to 50 bu. corn, 20 to 25 bu. wheat and 3 to 3.5 tons hay, merely because they do not realize the potential productive capacity of their own soils.

"Soils in the Northeast are productive provided that plenty of lime and fertilizer are added. Many farmers do not realize how productive their soils can be with good fertility practices. They should be reminded of the yields they could and should be getting and of the effect increasing yields have on the cost of production unit," he said.

Emphasizing the advantages of using college recommendations as a fertilizer selling tool was R. E. Wagner, Northeast director, American Potash Institute.

"A great strength of college fertilizer recommendations," he said, "is that they bear the official stamp of approval."

Mr. Wagner then noted that some state recommendations might not be as helpful as they should be because they are too conservative or the wrong grade or ratio is used. General recommendations, he felt, were at best a matter of a series of compromises and averages calculated to meet most nearly the needs of the majority.

He pointed out the value of the soil test and records of previous cropping and fertilizer practices. He noted that at present it is estimated that only one out of 30 Pennsylvania fields is tested.

The use of soil testing and trial and demonstration were also discussed as valuable selling tools, by R. L. Beacher, Southwest regional NPFI director; Francis Raymaley, American Cyanamid Co., and Murry McJunkin, U.S. Steel Corp.

W. H. Garman, Northeast regional director and chief agronomist for NPFI, talked on "Fertilizer Uncovers the Hidden Payroll." He discussed the advances in efficiency agriculture has made in the past 20 years.

Then, in answering the question "Where do we stand in 1960?" he said, "Farm production costs in 1959 were 19% higher than they were in 1950. Farm income was $1.3 billion less in 1959 than in 1950. For the year 1960 farm income is estimated at $11 billion, the lowest figure since 1942.

"With farm prices declining to a level estimated at 3% lower than in 1959, it is quite evident that salesmen in all lines will find the farmer a more difficult customer this year.

"Of all of the salesmen calling on the farmer, the one representing fertilizers will have the best story to tell. Each unit of farm output today will buy 2.6 times more plant food than in 1939. Representatives of no other commodity can make such a statement.

"Without fertilizer in the farming formula in 1960, and the years immediately ahead, farmers will be unable to pay for their other basic production needs, let alone avail themselves of some of the luxuries of life.

"With adequate fertilizer in the farming formula in 1960, and the years ahead, farmers will uncover hidden payrolls in more and more communities and counties throughout the entire Northeast."

Ralph Everett, Empire Sales Training Co., discussed "Selling Fertilizer."

FOUNDER'S TROPHY

ALBANY, GA.—The Albany office of Swift and Co.'s agricultural chemical division, has earned for 1960 the "Founder's Trophy," which is a desk used by the founder of the company, G. F. Swift. The award is given annually to the leader of the company's 25 divisions in the U.S. The Albany office won the right to keep the desk on basis of sales in 1959.

Mississippi Seedsmen Elect Officers, Directors

BILOXI, MISS. — Officers elected at the 15th annual convention of the Mississippi Seedsmen's Assn. here recently were: Ted Cheshire of Jackson, president succeeding Bill Wyckoff of Meridian; Ed Freeman of Marks, vice president, and S. R. Evans of Greenwood, secretary and treasurer.

District directors named for 1960 include: District 1, Sonny Roberts of Jackson, director; C. W. Rhodes of Brandon, associate director. District 2, J. Herman Smith of Kosciusko, director; Sam Estess of Canton, associate director. District 3, Elbert Lott of Yazoo City, director; H. M. Jordan of Cleveland, associate director.

The association voted to return to Biloxi for its next convention in January, 1961.

AT COLORADO MEETING—Officers and directors of Rocky Mountain Plant Food Assn. named at the Jan. 7-8 meeting at Ft. Collins, Colo., are shown in top photo. In front row, left to right, are: George Fleming, Farm Chemicals Co., Longmont, immediate past president; John Heitz, Colorado Milling and Elevator Co., Denver, secretary-treasurer; Ed McMillan, Spencer Chemical Co., Colorado Springs, vice president; Robert Pitcher, Colorado Plant Food Co., Manzanola, president.

Second row: R. D. McMurtry, McMurtry Seed and Fertilizer Co., Ft. Collins; Art Malowney, Phillips Petroleum Co., Denver; Frank Hall, Rodney Elevator Co., Ft. Morgan; and R. E. Monteith, Simplot Soilbuilders, Greeley. Not present was a ninth director, Vic Tousley, Eaton Potato Growers Assn., Eaton, Colo.

In lower photo are two Colorado State University senior agronomy majors, Arden Colette of Windsor (left) and Kenneth Hodgell of Monte Vista (right), who were named joint winners of the 1959-60 CSU agronomy achievement award sponsored by the National Plant Food Institute. Shown with them is Dr. R. B. Bahme, western regional director of the Institute, who presented each of the winners a $100 check and an engraved key. Both winners earned high "B" averages in their first three years and have been leaders in the agronomy department and other university activities.

The Week in WASHINGTON

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON—As the House Interstate and Foreign Commerce Committee opened its hearings on the amending of the Food, Drug and Cosmetic Act to impose additive controls on the use of coloring materials on foods, the Secretary of Health, Education and Welfare, Arthur S. Flemming, let loose his ideas on the Delaney Amendment in regard to all products under the FDA law.

Mr. Flemming wants to impose Delaney Amendment controls—controls saying that any compounds or products which are shown to be carcinogens when fed to test animals will not be permitted for use if there is any residue of those products or compounds on end products.

Mr. Flemming asserts that his decision must be based on the protection of public health. Before the House committee last week he revealed a broad but truncated statement from many scientific sources which express doubt over the use of many chemical products which have previously been approved by the U.S. Department of Agriculture as necessary for food protection or production.

It was the observation of this reporter after the Flemming appearance before the Harris committee that he had written into the record of the hearings that he was opposed to cancer and that the committee could hardly fail to agree to oppose cancer as a public danger.

Mr. Flemming stands four-square against cancer. Of this there can be no doubt.

He submitted to the House committee last week an acute statement wherein he set forth some isolated testimony of scientists to show that cancer can result from "unimportant" factors which the secretary in his position appears to be unwilling to approve.

Secretary Flemming must be described as against cancer. Who is for cancer? But the official testimony would lead many to conclude that the chemical industry is in favor of cancer.

It just ain't so. Mr. Flemming may be running for office in the next election campaign.

New Assistant Sales Manager Appointed

AURORA, IND.—Stedman Foundry & Machine Co., Inc., Aurora, Ind., has announced the recent appointment of Harold R. Krueger to the position of assistant sales manager of the firm. The position is one only recently created by Stedman as part of the firm's expanding sales setup.

Harold R. Krueger

Mr. Krueger has been a sales representative for the Stedman organization for the past five years. The firm manufactures processing equipment of the type used for mixing fertilizer ingredients and for other functions in the production of plant food products.

Consolidated Sales Up

ST. LOUIS—Monsanto Chemical Co.'s consolidated sales for 1959 amounted to $811,362,000, compared to $714,410,000 for 1958. Consolidated sales include those of the parent company and its domestic and foreign subsidiaries and one-half those of 50% owned associated companies.

Unaudited net earnings from such sales were $61,654,000, an increase of 44% over earnings of $42,857,000 for 1958.

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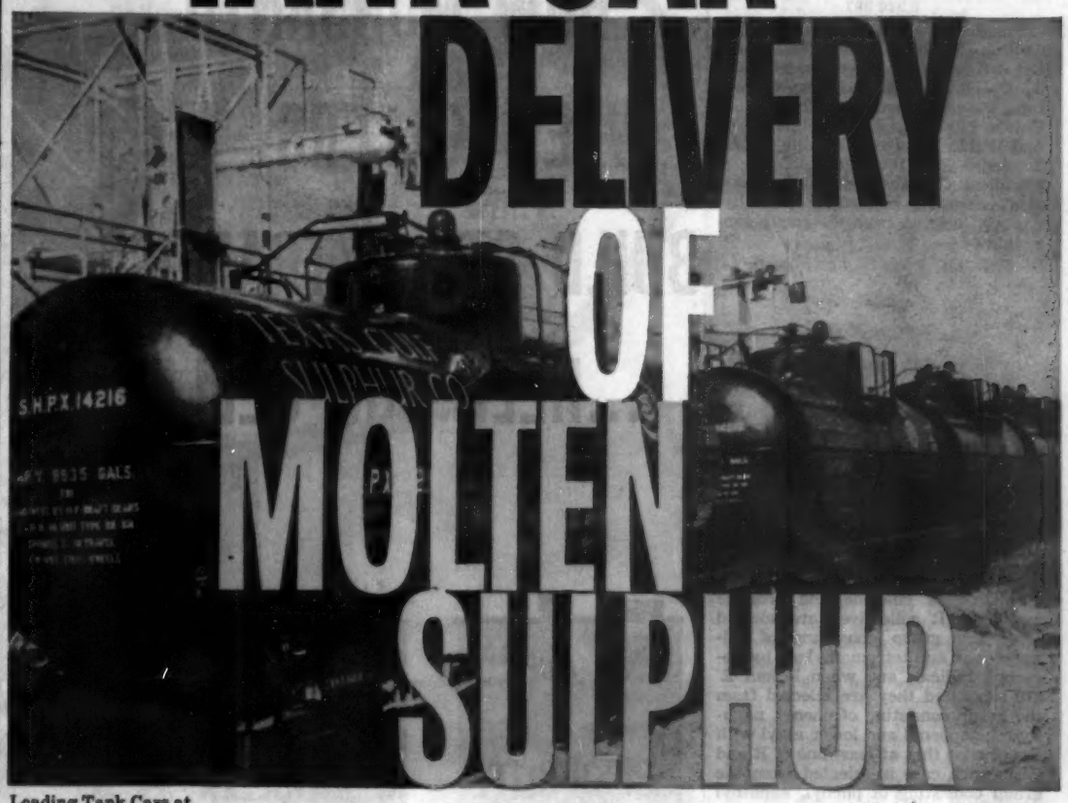
SCOTCH BROOM SWEEPER?

SACRAMENTO, CAL.—The California Department of Agriculture has granted permission for the introduction of an insect which may eventually bring under control thousands of acres of Scotch broom, a serious weed pest, now infesting valuable California range and forest lands.

The insect, Leucoptera spartifoliella, a leaf and stem miner found in France and other European countries, is an enemy of Scotch broom. Host preference tests conducted by the U.S. Department of Agriculture indicate that the insect is quite specific for Scotch broom. The adult female, a moth, lays its eggs in late May and early June on the stems of the Scotch broom plant. The eggs hatch in 15 to 20 days and the larval or "miner" form bores into the green stem where it remains active all winter. In March or April it comes out of its tunnel and pupates, forming a thin flattish elongated white cocoon. The adult moth emerges in late May or early June.

Scotch broom, introduced from Europe as an ornamental, is an attractive perennial shrub, 3 to 6 ft. high, with stiff, angled, broom-like green branches. The flowers are a bright yellow and are borne in profusion. The plant, an escapee from cultivation, has now become a weed and infests over 100,000 acres of valuable range and forest lands.

TANK CAR DELIVERY OF MOLTEN SULPHUR



Loading Tank Cars at one of our mines

...an important phase of TGS Service

This is a service of interest to the rapidly increasing number of companies preferring to receive their sulphur deliveries in molten form so that they can transfer directly from cars into consumption. We are equipped now to deliver molten sulphur by tank car from all mines and recovery plants to any place in the country. Detailed instruction sheets and drawings are available on request for those in the planning stage or who do not have adequate or proper facilities for handling and storing molten sulphur.

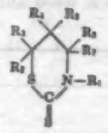
TEXAS GULF SULPHUR COMPANY
75 East 45th St., New York 17, N. Y. / 811 Rusk Ave., Houston 2, Texas

Sulphur Producing Units: Newgulf, Texas • Spindletop Dome, Texas • Moss Bluff, Texas • Fannett, Texas • Worland, Wyoming • Okotoks, Alberta, Canada

PATENTS and TRADEMARKS

2,920,096

Method of Killing Fungi Comprising Contacting Said Fungi with a 2-Thiotetrahydrothiazine. Patent issued Jan. 12, 1960, to Henry Bluestone, Cleveland Heights, Ohio, assignor to Diamond Alkali Co., Cleveland, Ohio. The method of killing fungi which comprises contacting said fungi with a fungicidal amount of a compound having the structure:

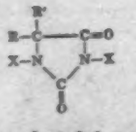


wherein R_4 is selected from the group consisting of alkyl, aryl, alkaryl, aralkyl, and alkoxy radicals, and R_3, R_5, R_6, R_7, and R_8 are radicals selected from the group consisting of hydrogen, alkyl, aryl, alkaryl, aralkyl, and alkoxy radicals.

2,920,997

Fungicidal Composition of a Hydantoin Selected from the Group Consisting of 5,5 Polymethylene and 5,5 Diaryl, and 5,5 Aryl, Alky Hydantoin, Patent issued Jan. 12, 1960, to Calvin N. Wolf, Forest Hills, N.Y., and Waldo B. Ligett, Pontiac, Mich., assignors to Pittsburgh Coke & Chemical Co. A fungicidal composition consisting essentially of a hydantoin selected from the group consisting of

and



where X is selected from the group consisting of chlorine and bromine and R and R' collectively are selected from the group consisting of trimethylene and tetramethylene hydrocarbon radicals and when R and R' are separated they are selected from the group consisting of phenyl, naphthyl, halophenyl and lower alkyl with the proviso that at least one of R and R' in such case is selected from the group consisting of phenyl, naphthyl and halophenyl, in combination with a relatively inert surface active agent as an adjuvant therefor, said hydantoin being present in a fungicidally effective amount.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of $25 must accompany each notice of opposition.

Swep, in capital letters, for insecticides, fungicides and herbicides. Filed Oct. 24, 1958, by Food Machinery & Chemical Corp., New York. First use May 15, 1957.

Avadex, in capital letters, for pesticides. Filed May 6, 1959, by Monsanto Chemical Co., St. Louis. First use April 10, 1959.

Fieldox, in capital letters, for pesticides. Filed May 6, 1959, by Monsanto Chemical Co., St. Louis. First use April 10, 1959.

Dexon, in capital letters, for fungicides. Filed June 11, 1959, by Chemagro Corp., New York. First use May 6, 1959.

Kylox, in capital letters, for fungicides. Filed June 11, 1959, by Chemagro Corp., New York. First use May 6, 1959.

Design, drawing of electric traffic signal, for plant nutrients consisting of chelated agricultural minerals. Filed Nov. 10, 1958, by J. J. Mauget Co., Los Angeles. First use Jan. 6, 1958.

Forti-Foliage, in capital letters, for fertilizer in dehydrated, concentrated water-soluble powder form, and in liquid form, for foliage feeding of plants. Filed Feb. 26, 1959, by Clover Chemical Co., Pittsburgh. First use Sept. 11, 1958.

Humilizer, in capital letters, for combination soil builder, soil conditioner and fertilizer mulch dressing for lawns and gardens and soil water absorbent. Filed April 3, 1959, by So-GreeN Industries, Ltd., Toronto, Ontario.

Hu-Mi-Sol, in capital letters, for dry fertilizer and soil supplement. Filed Aug. 10, 1959, by Philip R. Park, Inc., San Pedro, Cal. First use March 17, 1959.

Envert, in hand-drawn letters, for herbicides. Filed June 27, 1958, by Amchem Products, Inc., Ambler, Pa. First use May 21, 1958.

Stop 'N Grow, in capital letters, for lawn preparation containing weed killer and insecticide. Filed Sept. 4, 1958, by Kahn Bros. Co., Chicago. First use Feb. 14, 1958.

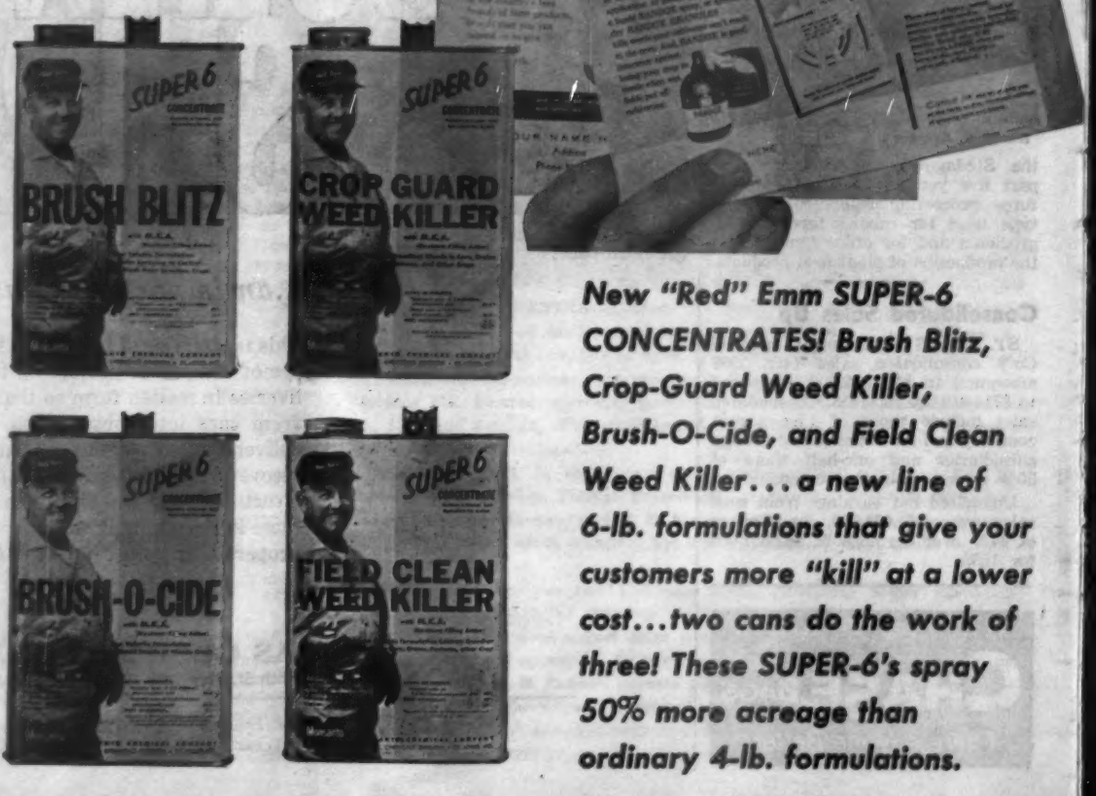
Spor-Rid, in capital letters, for fungicide for treatment of plant life and as a soil drench. Filed Oct. 29, 1958, by Gillette Inhibitor Co., Chicago. First use May 12, 1958.

Lawn Craft, in capital letters, for insecticides and fungicides. Filed May 4, 1959, by the Hubbard-Hall Chemical Co., Waterbury, Conn. First use April 14, 1959.

Design, drawing of tractor spreader, with words Ferti-Ground, Dehydrated Liquid Fertilizer for ground application, surrounded by odd-shaped triangle, for fertilizer for direct ground application. Filed June 23, 1959, by Clover Chemical Co., Pittsburgh. First use Sept. 11, 1958.

"Red" Emm shows you...

HOW MONSANTO WEED KILLERS BUILD STORE TRAFFIC ...HELP YOU SELL!



New "Red" Emm SUPER-6 CONCENTRATES! Brush Blitz, Crop-Guard Weed Killer, Brush-O-Cide, and Field Clean Weed Killer... a new line of 6-lb. formulations that give your customers more "kill" at a lower cost...two cans do the work of three! These SUPER-6's spray 50% more acreage than ordinary 4-lb. formulations.

ROOT GROWTH STUDIED

EAST LANSING, MICH.—Most people are usually more concerned with the part of a plant that's above the ground. But not Henry Foth, associate professor of soil science at Michigan State University.

Dr. Foth has been digging up roots of corn plants at several stages during the growing season. He is interested in tracing their distribution and finding out how corn-growing practices might be improved to enhance growth.

"Generally speaking," comments Dr. Foth, "growth of roots is mostly lateral until plants are about six weeks old. Then growth shifts to where it is mostly vertical.

"Said another way," he continues, "until plants are about six weeks old, the root system goes outward and down; after that, the roots start to go down more than out."

By the time corn plants are four weeks old, roots of plants in adjacent rows start to cross over one another in the area between rows, Dr. Foth reports.

"By the end of five weeks, the root system, while still largely going outward, has penetrated to a depth of 2 ft. below the crown of the plant," the scientist says. "The extended height of one plant examined was 52 in.; roots had penetrated to 26 in."

NPFI Work Group Seeks Information On Improvements in Fertilizer Handling

WASHINGTON—The National Plant Food Institute's Midwest Work Group on Fertilizer Handling Methods is seeking information on improvements in equipment that can help farmers save lifting time and labor in handling fertilizer.

The group, headed by Loren Johnson, U.S. Steel Corp., is part of the NPFI's Midwest research and education committee, of which Leo Orth, Sinclair Petrochemicals, Inc., is chairman. Other members of the group are: H. H. Tucker, Sohio Chemical Co., Inc.; Leonard Schrader, Standard Oil Company of Indiana, and Harry Cook, Farm Bureau Services, Inc.

Members of the farm equipment and fertilizer industries are invited to send to Mr. Johnson information on new machinery or combinations of standard equipment which promote convenience and save time, labor and expense in handling fertilizer from the manufacturer's plant through application equipment in the farmers' field. Pictures and details of new equipment—how it works, how it cuts down on time and work—would be particularly helpful to the Work Group, Mr. Johnson points out.

The work group plans to cooperate with the National joint committee on fertilizer application is gathering and collating information that would be of value to fertilizer handling equipment makers and to encourage them to develop improved machinery.

The importance of this program is indicated by a recent statement by Dr. George E. Smith, chairman of the University of Missouri's soils department. He emphasized that improvements in fertilizer distribution equipment are needed to keep pace with changes in agriculture and particularly in the use of plant food.

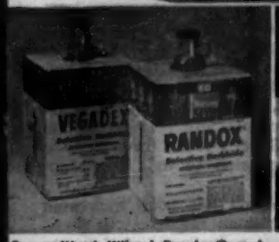
"I believe we're going to see changes in machinery to cut down the amount of work required to load corn planters," he said. "I think a lot of our farmers, who are good businessmen, are willing to pay a little more for greater convenience and ease of handling plant food.

"Labor is getting to be quite an item and the number of people on farms is considerably less than it was a few years ago. So we're going to need some more means of cutting down on the labor and handling of fertilizer."

The work group is interested in getting data on equipment for all forms of fertilizer, Mr. Johnson said.

All information should be sent to Loren Johnson, U.S. Steel Corp., 525 William Penn Place, Pittsburgh 30, Pa.

Here's a free double-barreled direct mail program that really brings the customers in...a tried and proven traffic builder...just stock 100 gallons of any combination of Monsanto weed and brush killers. Monsanto will send out two mailings to 100 of your top customers. The first mailing invites them to come into your store... the second mailing offers them a $1.00 pack of farm utility needles absolutely free! You get 200 mailings and 100 of these useful needle packs at no charge.



Grassy-Weed Killers! Randox® and Vegadex®—new spray-as-you-plant weed killers—knock out grassy weeds in corn, soybeans, and vegetables. Exclusive products for higher dealer profits.

Easy-to-use containers that "tell" and "sell"! These new 5-gallon spout-top cans almost sell themselves. Each can tagged with complete "how-to-spray" instructions written in plain language.

Monsanto advertising sells and re-sells your customers! Your customers will see "Red" Emm products advertised in Farm Journal, Progressive Farmer, Farm Quarterly and many state farm papers.

Lifelike display of "Red" Emm solves weed problems! Giant display with the "dial-the-crop" selector answers customers' questions for you tells just what weed killer to use.

Monsanto

Learn how Monsanto can help you sell more in 1960. Mail this coupon right now (while you are thinking about it) and get all the money-making facts.

Monsanto Chemical Company, Organic Chemicals Division
Agricultural Chemicals Department, St. Louis 66, Missouri

Sounds good! Please send me more information regarding the new Monsanto Weed and Brush Killer line.

NAME.....

FIRM.....

ADDRESS.....

CITY or COUNTY.....STATE.....

Two Bemis Executives Announce Retirement

ST. LOUIS—Bemis Bro. Bag Co. has announced the retirement of two vice president-directors, H. P. Claussen of the company's Boston offices, and R. M. Hersey, of the Bemis offices in Minneapolis. The retirements of the executives were effective Jan. 31.

Mr. Claussen, vice president—procurements and materials—joined Bemis in 1916, following his graduation that year from Massachusetts Institute of Technology with a B.S. degree in mechanical engineering. He started as the company's first New England salesman, was transferred in 1920 to the cotton department, and became director of the department in 1942, a position that later was expanded to director of cotton operations. He was elected a vice president in 1946 and to the board of directors in 1949. He was named to his present position—a newly-created post—last June.

Mr. Hersey, vice president and sales director for national accounts, came to Bemis in 1914 as a shipping department office boy in Boston. A few months later, he became a salesman working out of Peoria, Ill. As a salesman, he was transferred in 1919 to Minneapolis, was named manager of the Minneapolis general sales division in January, 1940, and assistant director of sales for interdivisional accounts in 1951. Two years later, he was elected to the Bemis board of directors and was named vice president and sales director for national accounts in January, 1956.

SALES IN ARKANSAS

LITTLE ROCK, ARK.—Fertilizer sales in Arkansas during December, 1959, amounted to 5,376 tons, or 58 tons less than the same month in 1958, reported the Arkansas State Plant Board.

Texas Speakers Laud Soil Tests as 'Key To Accurate Information' on Fertilization

By RON LOGAN
Croplife Special Writer

COLLEGE STATION, TEXAS—The advantages of soil testing were emphasized by speakers at the Texas Fertilizer and Limestone Conference held here in January. Soil test summarizations enable a fertilizer dealer to decide what grades he should choose to stock in his store, and also enable farmers to see the needs of their soil, the group was told by Dr. W. F. Bennett, department of agronomy, Texas A&M College.

"Soil summarization," he said, "is the key which can give accurate information about the status and condition of a state's agricultural areas today. Long ago, certain geographic areas could be generally classified as 'fertile' or 'weak.' Now, however, with soils in use for long periods, the inherent or 'native' fertility of an area may have been changed significantly."

Dr. Bennett continued by saying one can "pretty well figure that the same crops have been grown through almost any county—and that treatment of the soil has been fairly uniform. True, some individuals fertilize more heavily than others; but for the most part, and barring relatively small exceptions, the soil test summary for the county will hold true on most of the land in that county.

"So soil test summarization is being used in Texas for all these things and for others," Dr. Bennett said.

The 1960 meeting marked the first time that the Texas Plant Food Educational Society and the Texas Agricultural Limestone Assn. had held their annual meetings jointly. Both organizations sponsored the recent conference in cooperation with the Texas A&M department of agronomy and Dr. J. F. Fudge, Texas State chemist.

Recent research data was discussed on such subjects as the interrelationship of fertilization and irrigation; and a four-year study of response by wheat and sorghums to nitrogen and irrigation on the high plains. These studies would also offer valid information in several states with comparable soil, climatic and cropping systems, it was pointed out.

E. L. Whitely, associate agronomy professor at Texas A&M, told the group it is usually advisable to concentrate the farm fertilizer program on strictly cash crops. "Let supplementary crops utilize the fertilizer residue in succeeding years," he said. This comment was meant as a management principle centering around the cost of fertilizer as opposed to an immediate, recognizable cash return.

The conference also gave close attention to a talk by Dr. George W. Kunze of the college's agronomy department as he described the ways in which inherent fertility potential is realized by weathering of soils. Dr. Kunze listed source materials for essential elements including trace minerals, in addition to the standard N-P-K, and told how each is released from its mineral 'matrix' to become available as plant food.

As an example, Dr. Kunze said the soils of East Texas already are badly weathered—their important fertility components already released or locked in non-weatherable forms—so that heavy dosages of commercial fertilizers are needed; while those of West Texas, being rawer and less weathered, offer a situation where additional fertilization is less critical.

Well over a hundred dealers and fertilizer men from allied fields attended the two-day meeting.

OFFICERS ELECTED

COLLEGE STATION, TEXAS—Archie Edwards of Sulphur Springs was elected president of the Texas Plant Food Educational Society during the recent Texas Fertilizer & Limestone Conference held at Texas A&M College.

H. Dean Smith, Bonham, Texas, was elected vice president, and Sherman Clark, Houston, secretary-treasurer.

New directors, in addition to Mr. Edwards, are Steve Tatum of Houston, Ivan Gilliland of Fort Worth, Floyd Prather of Comanche and N. D. Morgan of Shreveport, La.

New directors include E. R. Adams of Beaumont; Ramsey Clinton of Burnet; Tom Wortham of Bryan; C. D. Roberts of Trinity, and Lloyd Groves of Canton.

Officers of the Texas Limestone Assn., joint sponsors of the conference, elected at an October meeting, are A. W. Herter, Lexington, president, and Joe Lemmons of Mexia, vice president.

REBUILDING PLANNED

LENORE, IDAHO—Rebuilding of the Lenore Grain & Seed Co. warehouse here will begin in the spring, reports Kenneth Summers, manager. Plans to replace the three-story wood and metal seed building destroyed by fire Sept. 12, with an estimated loss of $150,000, have not been drawn. It will be another month before final plans are considered, he said.

RUSSIAN POTASH

(Continued from page 1)

jack-hammers into the holds to get the cargo out."

Although there is little jubilation in the trade concerning the Red imports, U.S. spokesmen say they do not contemplate any petition to the Federal Government through the tariff commission to halt this shipment.

Some opinion has been expressed that the Russian imports will probably reflect reductions of imports from French and German potash sources.

Fit every market need with 24 SF State & Regional Editions

24 State & Regional Editions of Successful Farming			
Edition	States	Circulation*	B&W Pg. Rate
1	Iowa, Illinois, Indiana, Nebraska, Minnesota, Wisconsin	608,297	$3,955
2	Illinois, Indiana	218,956	$1,860
3	Iowa	128,670	$1,160
4	Minnesota	116,748	$1,050
5	Nebraska	67,646	$ 625
6	North Dakota, South Dakota	82,225	$ 760
7	Wisconsin	76,277	$ 705
8	Iowa, Illinois, Indiana	347,626	$2,780
9	Iowa, Minnesota	245,418	$2,085
10	Iowa, Nebraska	196,316	$1,720
11	Minnesota, Wisconsin	193,025	$1,690
12	Minnesota, North Dakota, South Dakota	198,973	$1,740
13	North Dakota, South Dakota, Nebraska	149,871	$1,350
14	Illinois, Indiana, Ohio	320,412	$2,565
15	Iowa, Minnesota, North Dakota, South Dakota, Nebraska	395,289	$3,065
16	Iowa, Illinois, Indiana, Wisconsin, Minnesota	540,651	$3,785
17	Illinois, Indiana, Ohio, Wisconsin, Michigan	464,985	$3,370
18	North Dakota, South Dakota, Nebraska, Kansas	217,241	$1,850
19	Iowa, Nebraska, Kansas, Missouri	339,268	$2,715
20	Middle Atlantic, New England	138,385	$1,245
21	Ohio	101,456	$ 915
22	Michigan	68,296	$ 630
23	Kansas	67,370	$ 625
24	Missouri	75,582	$ 700

*A.B.C. Publisher's Statement, 12/31/58

Fertilizer advertisers can now match every market need—in the 24 State & Regional Editions of SUCCESSFUL FARMING, *or the National Edition!*

Offering the greatest flexibility, the new SF editions enable the advertiser to increase impact in markets where sales potential warrants, step up coverage and effort where decided, custom-build advertising schedules to match market and opportunity.

The SF editions give national advertisers a powerful local merchandising tool and serve the needs of hundreds of advertisers whose distribution is limited to single states or groups of states.

And the new SF editions give the advertisers all the advantages of SUCCESSFUL FARMING . . . *influence* based on 57 years of service—quality reproduction, and an audience with big farms averaging 336 acres, and an annual estimated income from farming alone which averaged around $10,000 for the past decade and in a recent year reached more than $12,000.

The nearest SF office will gladly tell you more about your best 1960 fertilizer market and medium!

MEREDITH PUBLISHING COMPANY, Des Moines . . . *with offices in* New York, Chicago, Atlanta, Boston, Cleveland, Detroit, Los Angeles, Minneapolis, Philadelphia, St. Louis, and San Francisco.

what's NEW?

Broyhill

3-A BOOM — 8-row non-corrosive boom designed for roughest usage of commercial operator. Stainless steel finish.

Heavy duty Trailer Sprayer 220-gallon Plastl-Chem Tank

Ideal for applying corrosive chemicals.

Nurse Tanks in 500 and 1,000 gal. sizes available.

Write to:

the Broyhill COMPANY DAKOTA CITY, NEBRASKA

COMPLETE stocks are always maintained in the Horn Supply Co. warehouse. This way the farmer can get delivery of a specific fertilizer when he needs it.

NEAR THE FARMER'S barn, Donald Horn, on a personal call, shows the farmer how he is trying to help him raise a better and more profitable crop.

A BULLETIN BOARD is maintained at the Horn Supply Co., York, Pa., for the convenience of customers who like the idea and take advantage of it.

CUSTOMERS at the Horn Supply Co. can relax, enjoy a cup of coffee and retire to the meeting room where frequent farmer gatherings take place.

AFTER selling the customer the fertilizer he needs, the Horn Supply Co., York, Pa., tries to interest him in additional products. Here Donald Horn, left, one of the selling-minded Horn family, tries a tie-in sale.

'Early Bird Gets Worm' Motto Pays Off for Pennsylvania Firm

By PHIL LANCE
Croplife Special Writer

"It's the early bird that gets the worm" is a truth at the Horn Supply Co., York, Pa., for this aggressive organization goes after the fertilizer business as early in the season as possible.

"We begin making contacts for spring fertilizer the first of January, and for fall fertilizer, the first of July," explains Ernest O. Horn, Jr., vice president. "This gives us enough time to follow up our customers and prospects until they do order their fertilizer needs from us and, at the same time, gives us enough time to straighten out any situation that may have occurred which would hamper our getting that farmer's order."

The Horn Supply Co. is one of the oldest feed, fertilizer and related farm need outlets in central Pennsylvania and is operated and managed by members of the Horn family. In charge of the farm chemicals department, which includes fertilizers, insecticides and pesticides, is Ernest O. Horn, Sr. who is a partner in the business with his brothers. Assisting him is his son, Ernest, Jr., who is more or less the direct contact with the farmer himself on his farm chemical needs.

"Nothing beats personal contact," says Mr. Horn, Jr., "because when you take leave of a customer, you can pretty well tell whether you are going to get his fertilizer order or not. If you start contacting your customers early enough, you are in a good position to straighten out any problem that may have arisen and eventually it will give you the farmer's fertilizer business. Visiting a farmer during the season is very often too late for you to make a sale to him, because in all probability, he has already ordered from another source. However, by contacting the farmer early, you have enough time to size up the situation, thereby making the most of the potential sales volume in the particular area you are covering."

Mr. Horn, Jr., relies upon steady contact with the farmer to help him maintain the heavy volume sales which the Horn Supply Co. enjoys. In between personal visits, direct mail is continually being sent out to keep the firm's name in front of the customer. All types of literature that has anything to do with the raising of crops or the use of fertilizer, are mailed to the firm's customer and prospect list. This keeps the company's name always in front of its intended customers and has proven to be a valuable sales tool in promoting the sale of farm chemicals to farmers.

"For the farmer with whom we have been doing business for years, we usually write up a tentative order so that he can enjoy a firm price regardless of the time the fertilizer is delivered," says Mr. Horn, Jr. "The analysis can be changed at any time so that he gets the fertilizer most suited for his soil and, in this way, has protection insofar as type of fertilizer and price are concerned.

"In any case, we constantly urge our customers to permit us to take a soil sample and have it analyzed at the Pennsylvania State College. This institution then makes the proper recommendation, and we supply the farmer with the analysis best suited for his crop needs. Soil testing, we have found, shows the farmer that we take a personal interest in his needs and requirements, and this helps to keep him more closely related to our firm. Unless fertilizer with the proper analysis is used by the farmer on his specific crops, he cannot receive the best results. Usually, when this happens, he puts the blame on the dealer who supplied him with fertilizer. We try to make sure, therefore, for his and our own benefit that the farmer orders the proper fertilizer. For this reason, we are constantly urging soil testing."

The firm handles two nationally known lines of fertilizer in bags. Customers are urged to order their full quantity at one specific time so that they can take advantage of quantity price. However, they can have partial deliveries made whenever requested or the farmer can pick up whatever quantities he wants from the company's warehouse himself. In this instance, the farmer also takes advantage of price, but does not have to occupy valuable space in storing large quantities of bagged fertilizer.

More than 50% of the farmers in the area do their own fertilizer spreading. However, if they desire to have a contractor do it for them, the company will furnish them with a list of contractors from which they can make their individual selections. Because of the increasing number of farmers who are spreading fertilizer themselves, the Horn Supply Co. has not acquired any spreading equipment and has found that its contacts with the spreading fertilizer contrac-

(Turn to EARLY BIRD, page 11)

WHAT'S NEW

IN PRODUCTS · SERVICES · LITERATURE

To obtain more information about items mentioned in this department simply: (1) Clip out the entire coupon in the lower corner of this page. (2) Circle the numbers of the items of which you want more information. Fill in the name and address portions. (3) Fold the coupon double with the return address portion on the outside and fasten the edges with a staple, cellophane tape or glue. (4) Drop in the mail box.

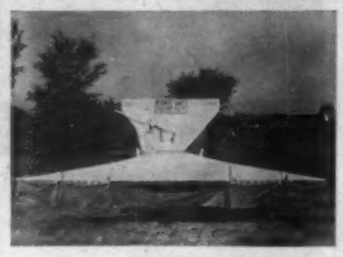
No. 6012—Anhydrous Applicator

John Blue Co. announces a "Mono-Wheel" applicator for anhydrous ammonia. Attached directly to the tractor in a few seconds, the applicator has characteristics of maneuverability, economy and simplicity of design, the company says. The tank, carriage, pump and drive are a completely self-contained unit. The pump, ground

driven for accuracy, is a model "ANDY" anhydrous ammonia metering pump. The tank is mounted on heavy duty saddles for operation under severe conditions, the company says. For details, check No. 6012 on the coupon and mail.

No. 6013—Spreader Bed Booklets

Fipps, Inc., has issued a booklet on the company's fertilizer, lime, phosphate spreader, featuring a complete description of the spreader bed. Features outlined in the booklet include the two-speed transmission, 19 ft.



hoods, 20 in. single distributor fan, spinner case and speed reducer. The spreader bed featured is designed for maximum spreading coverage with a minimum of trips through the field. For copies of the booklet, check No. 6013 on the coupon and mail to this publication.

Also Available

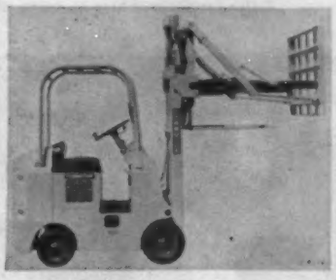
The following items have appeared in previous issues of Croplife. They are reprinted to help keep dealers on the regional circulation plan informed of "What's New."

No. 6005—Sprayer, Duster Catalog

A 28-page illustrated catalog containing information about sprayers, dusters and allied products, has been released by Universal Metal Products Co., division of Air Control Products, Inc. The catalog contains information about operation of a number of company products, with specifications, illustrations and uses of each. For copies of the catalog, check No. 6005 on the coupon and mail to this publication.

No. 6000—Fork Lift Truck

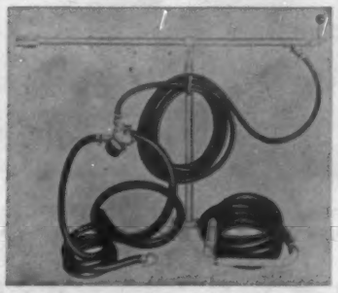
Towmotor Corp. announces the Model 461 fork lift truck. The unit is equipped with a hydraulically-operated "Unloader Accessory" which the company says speeds up loading operations and the deposit of heavy loads in warehouses and storage areas by "pushing" the entire load from the lift truck forks with one motion. The



wheelbase is 46 in. Accessory does not interfere with the normal operation of the lift truck, the company says. For details, check No. 6000 on the coupon and mail.

No. 6004—Boomless Type Sprayer

A boomless type sprayer (Model No. 630-L) that permits the operator to control each of its two jet nozzles independently from the tractor seat has been announced by Century Engineering Corp. The sprayer is equipped with a 44 in. aluminum gun on a swiveling, telescoping stand. The



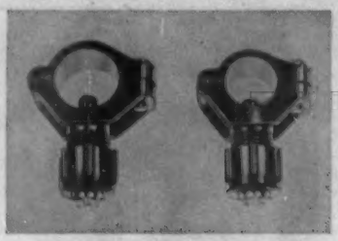
driver can spray to one or both sides by turning the control handle. Extra nozzles are provided so the gun can be used for regular hand gun spraying purposes. For details, check No. 6004 on the coupon and mail.

No. 6007—Weed Killer Brochure

"Grow Strawberries for Profit" is the title of a publication released by Reasor-Hill Corp. discussing R-H Weed Rhap-20, a granular 2,4-D. The illustrated publication contains information on how to use the product to rid strawberries of weeds. Before and after photos are used. For copies, check No. 6007 on the coupon and mail.

No. 6003—Nylon Eyelets

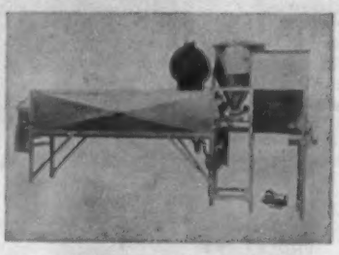
Delavan Manufacturing Co. announces that it has started making eyelets of nylon, because nylon offers resistance to corrosive effects of agricultural chemicals. According to company literature, the eyelets are simple to install on the boom and



have only one cap screw to tighten. A positive Hycar washer makes installation leakproof, the company says. They can be installed in production by drilling or punching an 11/32 in. hole in the boom. For more information, check No. 6003 on the coupon and mail.

No. 6002—Seed Treating Machine

A new version of the Kromer "Uniform Coat" seed treater, featuring sectionalized construction, has been announced by O. W. Kromer Co. The unit utilizes sectionalized construction for flexibility, economy and operating efficiency, the company says. The method consists of feeding a continuous stream of seed



into a slowly revolving mixing chamber where the seed is sprayed. Then the seed passes through a cloud of chemical dust in the mixing chamber. As the seed is mixed, the dust adheres to the moistened seed. When the seed is coated all liquid is absorbed and the seed picks up no more dust. It is capable of processing up to 18 tons of seed per hour, the company says. For more information, check No. 6002 on the coupon and mail.

No. 6001—Economy Sprayer Model

John Bean Division of Food Machinery and Chemical Corp. announces the economy Model 275 C.P. sprayer. Features of the unit include a four cylinder, 70 h.p. engine, convenient controls, a choice of two pumps, unitized frame and tank and specially designed nozzles, the company says. The unit equipped with the company's Royal 25 high pressure pump delivers 24.7 gpm at 400 psi. Equipped with a company self-priming, centrifugal pump it has a capacity of 50 gpm at 55 psi. It is designed for the small or medium sized orchard and can be equipped with a 300 or 400 gal. tank. For details, check No. 6001 on the coupon and mail.

No. 6006—Boom Control Valve

A boom control valve for pressures up to 300 psi has been added to the product line of the Delavan Manufacturing Co. It is being marketed under the trade designation of Delavan 9000 series Select-A-Spray. The operating principle of the unit is the same, the company says, but the face plate has been restyled, posi-

Send me information on the items marked:

- ☐ No. 6000—Fork Lift Truck
- ☐ No. 6001—Economy Sprayer Model
- ☐ No. 6002—Seed Treating Machine
- ☐ No. 6003—Nylon Eyelets
- ☐ No. 6004—Boomless Type Sprayer
- ☐ No. 6005—Sprayer, Duster Catalog
- ☐ No. 6006—Boom Control Valve
- ☐ No. 6007—Weed Killer Brochure
- ☐ No. 6008—Mist Sprayer
- ☐ No. 6009—Fog Generator
- ☐ No. 6010—Fork Lift Truck
- ☐ No. 6012—Anhydrous Applicator
- ☐ No. 6013—Spreader Bed Booklets

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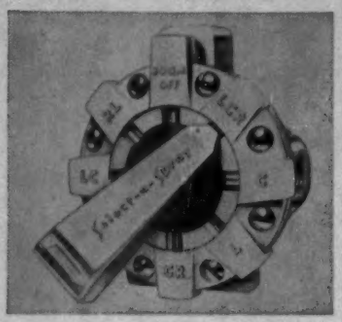
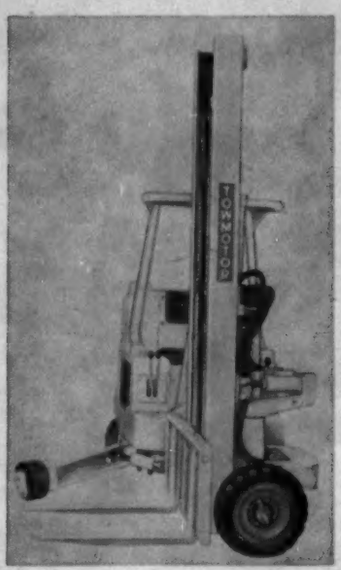
tive settings have been added to each of the eight spraying positions, the handle incorporates a spring for easier operation in the field and is larger to provide additional hand leverage. It will be available in four models to fit all inlet, bypass and outlet requirements. It comes with two cap screws for simple, sturdy mounting to spray rig and is furnished with an



accessory outlet which is fitted with a plug for those cases where the outlet is not required. For details check No. 6006 on the coupon and mail.

No. 6010—Fork Lift Truck

Towmotor Corp. announces the model 590 fork lift truck in the company's "Naro-Aisle-Stack" series. The entire front end assembly can be pivoted a full 90° in either direction. To right or left angle stack loads in an aisle as narrow as 6 ft.



The hydraulically-operated outriggers stabilize the unit during the pivoting operation. Wheelbase is 59 in. Capacity is 4,000 lb. at 24 in. load center. For details, check No. 6010 on the coupon and mail.

EARLY BIRD

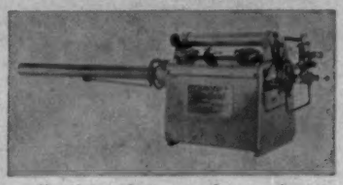
(Continued from page 9)

tors fill the need for this service when requested by farmers.

With corn, wheat, barley and pasture grass being the most popular crops raised in the area, the 5-10-10 analysis has been termed the most general used in the vicinity. Several tons of this analysis in the different brands handled are constantly stocked in the warehouse, with other analysis being available when necessary. Heavy stocks are maintained on a year round basis so that immediate service can be given farmers upon request. The average order runs from five to 20 tons per customer, with ample stocks on hand making immediate service available. All orders are delivered within 24 hours when customers are served within a 50 mile radius of the firm's headquarters.

No. 6009—Insecticide Fog Generator

The Dyna-Fog "50," an insecticide fog generator, has been edded to the Curtis Automotive Devices, Inc., line of insecticide dispensing equipment. It is designed primarily for indoor



applications, but can be used outside also, the company says. It produces a dense cloud of dry insecticide fog without residues, the company says. It weighs 16½ lb., it is portable, is 52 in. long and is constructed of stainless steel and aluminum. It is powered by a regular grade gasoline. For further information, check No. 6009 on the coupon and mail.

No. 6008—Air-type Mist Sprayer

The model 51 "Rotomist" has been introduced by the John Bean Division of Food Machinery & Chemical

Corp. The air-type mist sprayer is designed especially for mosquito control. Features include a 21 in. axial flow fan and Hypro pump producing 15 gpm at 150 psi. The model is mounted on a 75 gal. tank, is manually rotated through 360° pivoted at the center of the base on six 3 in. steel rollers, and has a 35° angle discharge head available for spraying small to medium trees. It also has a special fuel oil injecting system that emits smoke into the air stream to trace the spray pattern. Power is from a two cylinder, 13 h.p. air-cooled engine. For details, check No. 6008 on the coupon and mail.

SOIL TESTING MOVIE

WASHINGTON—A 15 minute sound and color movie on soil testing has been prepared and released by the soil testing division, North Carolina Department of Agriculture and the visual aids department of North Carolina State College. The National Plant Food Institute cooperated in the production of this film through a grant made to the Soil Testing Laboratory.

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Lion E-2 saves your customers time when they need it most. Because Lion E-2 is concentrated, your customers can put up to one-fourth more material in their spreaders. They eliminate at least one out of every five refill stops. Lion E-2 spreads easily, produces the yields that build repeat business for you.

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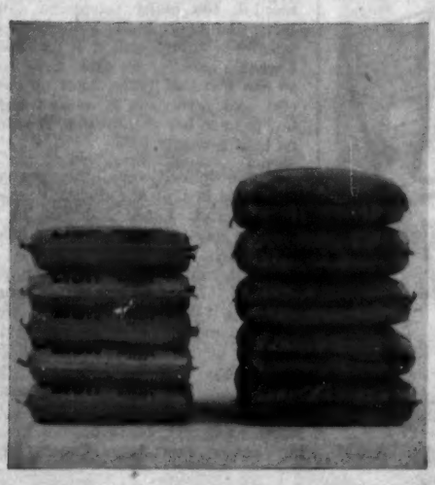

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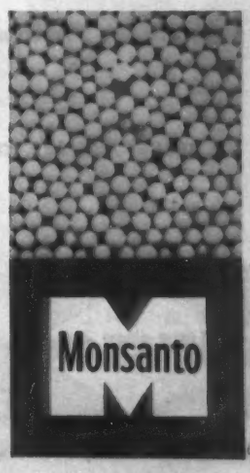
You can stack Lion E-2 higher, safer, faster. The bags are specially "frictionized" with Monsanto Syton, the antislip agent that reduces bag damage due to slippage.



OSCAR & PAT

By AL P. NELSON

Thursday night was a holy night at the Schoenfeld home, and no one dared to intrude on Oscar and Minnie's privacy. That was when Oscar and his wife went over the food bargain ads in the local newspaper, checking prices and making up the shopping list for Friday nights when Oscar and Minnie went out to buy their weekly supply of groceries.

After the evening meal, Minnie would clear the round, oak dining table and Oscar would spread out the paper. Then while Minnie washed the dishes, Oscar would stand with a big red pencil and a vicious, stern expression on his florid face.

"Minnie!" he would yell. "Do we needt any coffee this week?"

"Y—yes, Oscar. We've only enough for another day."

"Hm!" Oscar would study the ads for coffee bargains, and circle every coffee price with the red pencil. "They want 76¢ a poundt at the International Stores, and 72¢ at the Southern Pacific. Too much! Too much!" he moaned. "They want to get rich in a day."

"But they have quality coffee!" Minnie said weakly. "It tastes good. It hasn't all that chicory in it like the Super Dooper Market coffee."

"Minnie!" Oscar shouted. "Coffee is 54¢ at the Super Dooper. That's for us. Ach, what's a little chicory? We can safe money. Let that Irisher partner of mine buy the expensive coffee. Some day he will haf to drink water for breakfast. He'll be broke."

Minnie sighed. "Why," she thought, "couldn't we just once have good coffee like they served at Ladies' Aid, so rich and tasty? Not this weak, chicory tasting stuff Oscar always bought. And always adding another cup of hot water to the pot when it ran dry."

"Minnie!" Oscar shouted again. "Hamburger at the Super Dooper is only 46¢ if we buy 5 pounds."

"Couldn't we have a steak just once?" Minnie asked tremulously. "We had one on our wedding night, remember? It tasted so wonderful."

Oscar frowned and looked toward the kitchen. "Ach, protein is protein. There is just as much oomph in hamburger as in steak—andt at half the price. Minnie, get wise to yourself. Let that Irisher spendt his money on steaks. Not us."

Once more Minnie sighed. She was always consulted on the weekly shopping list, but her suggestions were never taken. It was Oscar who made up the final list. Minnie was merely the sounding board. And she could be sure that all the items Oscar marked down were the cut rate, bargain food items that Oscar had spotted in the newspaper.

Oscar was so satisfied with his bargain food selection, that he patted his stomach and went into the kitchen, list in hand. "Ach, Minnie," he said, "people shouldt all be like us, to figure oudt ways to safe money. If they didt like we do, then the country would be in goot shape. Not all this spendink all the time. Not all this liffink it up. Someday there won't be anythink to liff up, even from the government. What then?"

"Oh, but people like to have a little fun and taste good foods, Oscar," Minnie protested weakly.

"Fun?" echoed Oscar angrily. "That's all people think about nowadays. Who says a man and woman is supposed to haf fun? A man and wife is supposed to work and safe and do without things. Fun! Only fools have fun. Someday they will findt out. They may haf to haf the county bury them in a pine box, not a nice coffin. Not me. I haf the money to pay for my funeral and yours, too."

This was a little too gloomy for Minnie. "Well, let's go through the list some more, Oscar," she suggested. "Maybe you forgot something."

"I did not forget nottink," Oscar said stubbornly. "Ach, if I couldt only get that Pat to buy carefully. But he has such a thick headt he can't see it. All he thinks about is sellink, all the time."

Minnie said nothing.

"We save about $5 a week buyink food specials, Minnie," Oscar said. "That's $250 a year. In ten years it's $2,500 out on interest, too, yet. How would that Irisher like to haf an extra $2,500 every 10 years?"

Again Minnie said nothing.

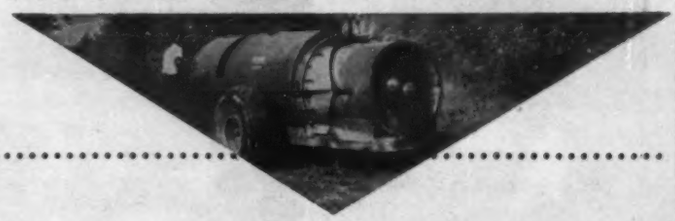
"I safe our business thousands of dollars in discounts," Oscar went on, working himself up. "Ach, I also safe hundreds of dollars on electric light bills. I keep Pat from makink too many telephone calls long distance. Andt I keep that salesroom thermostat down to 68°. I wear a sweater on coldt days and so can Pat and Tillie. Andt on special cold zero days it doesn't hurt her to keep her galoshes on. It safes us heat money."

Minnie looked very glum as she wiped the last of the dishes.

"Ach, andt I tell Pat not to be such an easy mark for them salesmen. I tell him to buy carefully, to get better prices andt bigger discounts. I tell him to tell the salesmen we can get better prices from competitors, and scare them into giving us lower prices. Minnie, why is it that nobody but us thinks about cuttink the corners on expenses nowadays?"

Minnie sighed. "That's maybe because so many people believe in living better nowadays, Oscar. They

FOLIAR APPLICATION...



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Grace Chemical Company

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don't believe in saving so much money. They figure their pensions and social security will take care of them in their old age."

"Ach, how foolish!" Oscar broke in fretfully. "Now let me tell you some common sense, Minnie. If a man gets into the habit of lifting it up in his own life aroundt the house and club, then he will also liff up his business money, too. If a man learns to spendt like a drunken sailor, he can't shut it off when he steps into his schtore effery day. No siree. I know what I'm talking about. It's common sense. Safing money and cutting expenses is a habit, and you gotta work at it to make it schtick. I work at it. Pat don't."

A couple of sailors laying over for a day or two in Sweden decided to go to church. Knowing no Swediah, they figured to play safe by picking out a dignified-looking gentleman sitting in front of them and doing whatever he did.

During the service the pastor made a special announcement of some kind, and the man in front of them rose. The two sailors quickly got to their feet, too—only to be met by roars of laughter from the whole congregation.

When the service was over and they were greeted by the pastor at the door, they discovered he spoke English and naturally asked what the cause of the merriment had been.

"Oh," said the pastor, "I was announcing a baptism, and asked the father of the child to stand."

★

Brooklyn sailor: Whudya do before ya jerned da Navy?

Midwestern sailor: I worked in Des Moines.

Brooklyn sailor: What kind of moines, iron or coal?

★

A drunk came into a bar and said to the bartender, "Set 'em up all around, give me a drink, and have one yourself."

This went on for several rounds and the bartender told the drunk he owed him $17.50.

"I don't have any money," said the drunk amiably. The bartender reached across the bar, hit him in the nose, and threw him out of the bar. In a little while the drunk returned.

"Well, what do you want now?" growled the bartender.

"Set 'em up all around and give me a drink, but you can't have one this time. You get mean when you drink."

★

The parents of a little boy who consistently refused to eat his meals, finally consulted with a child specialist. He advised them to humor the boy, do everything they could to get him to eat his food.

So the father told Junior: "I'll get you anything you want to eat."

"All right," said the kid, "I want to eat a fishworm."

Pop gulped, but determined to follow the doctor's advice, he hunted up a worm in the backyard and put it on a plate in front of his son.

"I want it cooked," the kid yelled. And his father took the worm into the kitchen and boiled it.

Now the boy looked the worm over, and finally said, "O.K. You eat half, I'll eat the other half."

Turning green, dad finally choked down half of the earthworm. Suddenly the silence was shattered by a wail from his son: "You ate my half!"

Nitrogen on Rangeland Yields Extra Beef Pounds, More Money, NPFI Says

"Ranchers can produce an additional 5 or 6 lb. of beef and pocket more than an extra dollar for each pound of nitrogen applied to rangeland."

This is an observation made by Dr. Richard B. Bahme, western regional director of the National Plant Food Institute. Dr. Bahme was commenting on results from fertilizer trials conducted over a 15-year period at Sunol, a site representative of about 1½ million acres of annual range in California, which receives an average yearly rainfall of 16 in. The fertilizer trials were conducted by the government-sponsored Pleasanton Plant Materials Center in Alameda County, Cal.

"According to the agronomists' report summarizing six years results at Sunol, annual fertilization with nitrogen and phosphate increased forage production by three times that of unfertilized range," Dr. Bahme said. "Fertilization boosted hay production by an average of 2,882 lb. each year, or to put it another way, each pound of nitrogen applied produced over five pounds of extra beef. These yields were obtained from an annual application of 200 lb. of fertilizer per acre.

"Not only did yields rise significantly, but the report states that this rate of fertilization advanced the date of grazing readiness by six weeks and doubled the length of the green feed period. With an application of 1,000 lb. of fertilizer per acre it was shown that grass would mature up to 12 weeks earlier."

Other striking results of these fertilizer trials were the reduction of fluctuation in production of forage from year to year, and the improvement of "frost hardiness" or the ability of plants to live and grow during the frosty months. Fall fertilization with nitrogen and phosphate reduced the amount of tip burning by frost.

"Since the erosion had been severe on the Sunol range, another welcome effect of fertilization observed was the production of an adequate cover for control of erosion and conservation of water," Dr. Bahme said.

The Pleasanton Plant Materials Center serves all Soil Conservation Districts in California.

REGIONAL SALES HEAD

DES MOINES, IOWA—Merle Simonsen, manager of the Simonsen Manufacturing Co., Quimby, Iowa, reports that Kay Stevenson has been promoted to head up the regional sales office for the company in Le Sueur, Minn.

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FARM SERVICE DATA

EXTENSION SERVICE REPORTS

Insecticides are being put in cattle feeds to kill livestock parasites.

The procedure, still in experimental stages, promises an easier and more effective control of insects and mites that attack farm animals, a Cornell University scientist said.

Prof. John G. Matthysse, of the New York State College of Agriculture at Cornell, told representatives at the 1959 Nutrition Conference for Feed Manufacturers that economic gains could be expected if the method proves successful. He said the time-consuming processes of spraying and administering large pills to cattle through their mouths might be eliminated on many farms. He added, however, that the insecticides can only be used on non-dairy animals because of residues in milk.

Prof. Matthysse said the insecticides tried are fatal to parasitic insects such as mites, ticks and flies which ingest the insecticides when they suck their victims' blood.

Prof. Matthysse said most of the research is centered in chemical companies which produce the compounds. The products are now being tested by the Pure Food and Drug Administration to determine their effects on people who eat meat from treated animals. The compounds have no poisonous effects on the animals themselves if sufficiently small amounts are given, Prof. Matthysse declared, adding that great care is necessary in administering the compound under present conditions.

"In general, inclusion of insecticides in livestock feed is one of the most promising developments in livestock and poultry pest control," the Cornell professor stated. "Seasonal use will be very limited at the outset. The major pests are cattle grubs, which require treatment in September and October here in the northeast."

Prof. Matthysse said the method is well suited to the needs of small beef raisers, sheep and swine growers, and dairymen, because these producers seldom have the necessary equipment for power spray application of insecticides. "Cattle grub control definitely raises hide and carcass values," he concluded. "Many experiments have been conducted on cattle weight gains, and in most cases the treated animals have gained more than those that were left untreated. Some of the more impressive weight gains have been made during experiments with insecticides in feeds."

★

"Pouring on" fertilizer according to soil test recommendations paid off in corn yields of 157 bu. per acre this year for the Diehl Brothers, who farm near Dansville, in Ingham County, Mich.

That is the report of J. A. Porter, Michigan State University extension soils specialist, in a statement made public in Chicago by the Midwest division of the National Plant Food Institute.

"Soil tests showed the field had sufficient lime, but phosphate and potash were on the low side," says Mr. Porter. "The soil was a Conover loam."

"The high yielding field was plowed out of a good first year clover crop.

"On the basis of the soil test recommendations, Dave and Dorn Diehl plowed down 500 pounds of 12-12-12 fertilizer per acre at planting time. Then they added 250 lb. per acre of 21-53-0 in the row. This heavy application of highly concentrated fertilizer was possible because the Diehl Brothers used a side-placement corn planter.

"Altogether, this plant food application gave a total of 118 lb. of nitrogen, plus 70 lb. made available from plowed-down clover, 180 lb. of phosphate and 60 lb. of potash per acre.

"The Diehl Brothers cashed in on their fertilizer application by having enough plants per acre to make use of all the nutrients. Their planting rate was sufficiently high so the actual stalk count at harvest averaged 19,700 per acre."

Mr. Porter points out that farmers in other areas can achieve the same results by following the methods the Diehl Brothers used.

"This means more total corn produced on the farm, or the same crop on fewer acres, the cost per bushel goes down and the profits go up when the right fertilizer is used and other good practices are followed," he says.

Symptoms produced by a virus disease in camellias are relieved by a special application of iron reports a horticultural research team at the University of California, Los Angeles. The team is composed of C. P. North, Dr. Arthur Wallace, Dr. G. F. Ryan and R. T. Mueller.

Symptoms of the camellia virus disease are yellow splotching and spotting of leaves and white mottling of colored flowers. Addition to the soil immediately surrounding the diseased plant of relatively small amounts of a special iron compound completely removed all traces of these symptoms over a period of six to 12 months. Gradually leaves returned to a full green color and the plant started producing solid colored flowers instead of the red and white variegated ones it had produced prior to treatment.

Although all symptoms of the disease disappeared following treatment, the virus remained in the plant and was still capable of infecting other plants. Subsequent new growth was similar to that of virus-free plants, but when the iron supply was depleted symptoms returned.

The iron was supplied in a compound known as a chelate, in which the iron is held in the vise-like grip of a chemically structured "claw." The iron deficiency apparently caused by the virus is little understood. There appears to be some kind of interrelationship between chlorophyll and flower-pigment synthesis, iron level and the presence of virus in camellia, the investigators said.

★

An eastern North Dakota farmer can get more forage production without buying more land or harvesting more acres by applying nitrogen fertilizer, says the North Dakota Agricultural College. Bromegrass has responded to fertilizer rates up to and including 266 lb. of actual nitrogen per acre.

The current forage shortage makes the results of nitrogen fertilization even more important than in years of abundant hay and pasture.

Increased forage production from nitrogen fertilization appears economical up to 133 lb. of actual nitrogen an acre annually, says Dr. Jack Carter, agronomist at the North Dakota Agricultural Experiment Station.

Protein content and yield in pounds have been increased greatly with nitrogen fertilizer, and fertilization results in about 10 to 14 days earlier pasture available, Dr. Carter reports. Nitrogen fertilization at higher rates (133 to 266 lb. of nitrogen per acre) has resulted in better production or regrowth after hay or pasture harvest.

Very old bromegrass meadows have not responded as well to nitrogen fertilization as new stands, says Dr. Carter. New stands of bromegrass should be fertilized with nitrogen every year, including the first harvest year, especially if following a long history of grain crop growth.

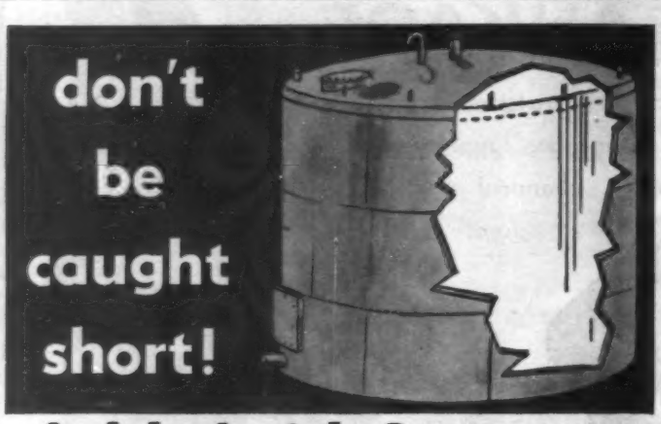
Though good soil moisture is necessary to maximum response, good responses to fertilizer have been obtained all years at Fargo, Langdon and Edgeley.

Nitrogen fertilization is necessary for maximum grass seed production. Cultivated rows spaced 2 ft. apart with 133 lb. of nitrogen annually appear best for a balance of plant numbers, nitrogen and soil moisture.

Phosphorus fertilization of grasses, alone or with all rates of nitrogen, has not increased forage or seed production at Fargo, according to Dr. Carter.

FMC APPOINTMENTS

MIDDLEPORT, N.Y.—Niagara Chemical Division, Food Machinery and Chemical Corp., announces two new appointments in its research and development department. Dr. N. E. Krog has been named assistant to the director of the department while Dr. K. P. Dorschner assumes the post of supervisor, biological laboratories.



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Here's how to go after a growing new market with this non-leaching, high-nitrogen fertilizer:

You can be sure Spencer 45 Urea is in good condition when you get it and when you sell it. It is guaranteed to stay dry and free-flowing even after a full year's storage under proper conditions. Each round prill is coated to prevent caking, and Spencer 45 Urea is packed in special moisture-proof bags that seal out dampness.

LAST year, well over 100,000 tons of solid urea fertilizer were sold for direct application. And from all indications, 1960 will see dealers selling more of this popular new nitrogen source than ever before. It will pay you to make sure you get your share of this expanding market by stocking Spencer 45 Urea.

Many dealers have discovered that selling Spencer 45 Urea offers attractive profits. They have learned how extremely important it is to show customers the proper basis for comparing the cost of various solid nitrogen fertilizers. The true value to the consumer is not the price per bag, or ton of fertilizer—what really counts is the price of actual nitrogen delivered.

For instance, a ton of a low-analysis (20.5%) nitrogen source delivers 410 pounds of actual nitrogen. A ton of Spencer 45 Urea delivers 900 pounds of actual nitrogen. By comparing the cost of actual nitrogen delivered, you will demonstrate that Spencer 45 Urea costs almost exactly the same per pound of actual nitrogen.

Yet, Spencer 45 Urea gives you all the important extra benefits to offer your customers:

1. Half As Much Material To Handle

Because Spencer 45 Urea has more than twice as much nitrogen grow-power as low-analysis sources, your customers need to lift only half as many bags and make half as many refilling stops in the field. This benefit alone can help you make sales.

2. Special Non-Leaching Qualities

As Spencer 45 Urea dissolves and goes into the ground, it actually attaches itself to soil particles—stays where it's put until the plants use it for nourishment. It's ideal for pre-plant application.

3. Gradual Release Feeds All Season

One shot of Spencer 45 Urea lasts clear through the growing season because this advanced source releases nitrogen evenly as the plants grow. Explain this important advantage to your customers, too.

Just remember that even though Spencer 45 Urea offers these extra benefits it is still new enough that many of the people in your area will have to be introduced to its advantages. Of course, since Spencer is already the favorite brand of nitrogen in many areas, it is a name farmers trust. Then, too, your customers are getting the Spencer 45 Urea story on radio, and in leading farm papers and magazines as Spencer's advertising leadership continues to pave the way to smoother selling for you.

To help you get started after urea profits, Spencer offers several efficient plans for stocking Spencer 45 Urea:

(a) Order a split car using any combination of Spencer "Mr. N" Ammonium Nitrate and Spencer Urea to fill a minimum car.

(b) Send your own truck to any one of Spencer's 15 convenient warehouses offering 45 Urea.

(c) Order fast rail shipments of 15 tons or more.

(d) Spencer will deliver by truck in minimum load quantities.

Next time your mixer salesman is in, ask him about the best way for you to order Spencer 45 Urea (and "Mr. N" too). Choose from three sizes of extra-tough, moisture-proof bags: 50-lb. all plastic bags, and polyethlene-lined paper bags in 80 and 100-lb. sizes. Or get Spencer 45 Urea in bulk at $4 per ton less than 80-lb. bags.

Put in a stock of Spencer 45 Urea right away. Be ready to cash in on your share of this new business, and you will be serving your customers better, too.

SPENCER

"Don't just fertilize... Spencerize"

SPENCER CHEMICAL COMPANY, Kansas City, Missouri

Producer of 4 Nitrogen Spencerizers for hungry crops

RESEARCH GRANT

FORT COLLINS, COLO.—A Colorado State University fertilizer research project will get substantial support this year through a U.S. Steel Corporation grant.

The $3,000 grant was announced by Dr. Robert S. Whitney, chief agronomist with the CSU Experiment Station, and Drs. Charles Bourgh and Roy Lipps of the steel firm's Salt Lake City offices.

The project it will assist has been underway for several years in sugar beet test plots at Rocky Ford and Fort Collins. It is aimed at determining how placement and rate of application of nitrogen fertilizers—both alone and along with other nutrients—affect the manner in which crops take up nutrients.

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Polymer Lined
WENDNAGEL Wood Tanks

Eleven 23,000-gallon Douglas Fir processing tanks during erection in Iowa processing plant. Easy erection in close quarters.

For many applications such as mixing and storage of chemical solutions, raw materials, waste disposal, etc., nothing has more general utility than Wood, Nature's own corrosion proof material. Wood resists chemical action of practically all solutions within a pH range of 2 to 11, and commonly gives economical service even though slowly attacked by stronger solutions, considering the low original cost.

FOR MORE SEVERE SERVICE . . . GREATER ECONOMY

The introduction of NEW POLYMER LININGS for Wood Tanks has made possible the "POLYCEL" tank—for practically any chemical solution—covering a pH range from zero to fourteen. The combination of a low cost wood membrane and a variety of tough, resistant polymer films offers big advantages over high priced alloys.

Fill out and mail the inquiry form for up-to-the-minute information.

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Diameter ..... Height .....
Size rectangular tanks inside:
Length ..... Width ..... Depth .....
Shipped knocked down .....
or delivered and erected .....

Sugar Beet Fertilization Subject of Meeting

SAN FRANCISCO — Studies on sugar beet fertilization will have their place on the program of the American Society of Sugar Beet Technologists meeting to be held in Salt Lake City, Utah, Feb. 2-5.

This 11th annual meeting will be opened by Harvey P. H. Johnson of American Crystal Sugar Co., president of the society. The program will consist of six sections—agronomy, genetics and variety improvement, entomology and plant pathology, agricultural engineering, chemistry and factory engineering, and physiology.

Many papers of interest to the fertilizer industry will be featured in the agronomy section of the meeting, most of which will be presented during the Feb. 5 morning session. Some of these are: "Sugar Beet Responses to Midseason Applications of Various Nitrogen Source Materials," "The Effect of Phosphate Levels and the Amount of Fertilizer Applied at Planting Time on Soil Tests, Stand, Chemical Composition of Foliage and on Purity and Sucrose Content of Sugar Beets," "Field Studies on Nitrogen Depletion Responses of Sugar Beets in Relation to Plant Population," "Yield and Zinc Content of Sugar Beets as Affected by Nitrogen Sources, Rates of Nitrogen, and Zinc Application," and "Yield and Quality of Sugar Beets in Variously Fertilized Legume and Non-legume Cropping Systems."

Several other papers of interest to the industry will also appear on the physiology section of the meeting scheduled for the morning of Feb. 3. Two of these are "Response of Sugar Beets to Nitrogen Depletion in Relation to Plant Competition" and "The Variability of Sugar Beet Constituents as Influenced by Soil, Fertilization, Climate and Variety."

Those presenting papers at the four-day conference are drawn from the sugar beet industry, universities, research laboratories, and USDA.

California Chemical Makers on the Increase

SAN FRANCISCO—The number of agricultural chemical manufacturers in California increased from around 104 during the summer quarter of 1958 to 112 at the end of the year, according to an estimate of the division of research and statistics of the California State Department of Employment.

Employment in these firms, however, dropped slightly from an average of 2,800 during the earlier period to around 2,700 by the closing months of the year. Total quarterly wages nonetheless went up from $3,936,989 to $3,999,066.

The figures for 1957 are not comparable since classifications were changed during 1958.

Farm and garden supply stores, handling agricultural chemicals as well as other farm products, increased in number from 1,241 to 1,263 between the final quarter of 1957 and the final quarter of 1958. Employment between the two years rose fractionally from around 5,700 to 5,900, with quarterly wages totaling $5,909,295 as compared with $6,261,536.

NAMED SALES MANAGER

BIRMINGHAM, ALA. — Continental Conveyor and Equipment Co., Birmingham, announces the appointment of J. E. Carroll as sales manager. A graduate of Georgia Institute of Technology, Mr. Carroll had been associated with Continental Conveyor's predecessor company (Industrial Division, Continental Gin Co.) since 1944 and has been district sales manager in Atlanta since 1951. In his new position, Mr. Carroll will be in charge of all sales activities with offices in Birmingham until the company's new plant and office building is completed at Winfield, Ala., in approximately three months.

WEED CONTROL OFFICERS—Elected at the close of the three-day meeting of the Southern Weed Control Conference at Biloxi, Miss., Jan. 20-22, were new officers for the 1960-61 year. Shown above, left to right, are: V. S. Searcy, Auburn University, Auburn, Ala., retiring president; Dr. R. A. Darrow, Texas A&M College, College Station, Texas, new president; Dr. W. K. Porter, Louisiana State University, Baton Rouge, La., vice president; and Dr. R. E. Franks, University of Arkansas, Fayetteville, Ark., secretary-treasurer. The meeting attracted some 300 persons from all of the Southern states. (Convention report, Croplife, Jan. 25, page 1.)

Calspray Ships Liquid Fertilizer Storage Tank

PORTLAND, ORE.—Forty tons of prefabricated steel, welded and fitted together into a tank as big as a two bedroom house, was shipped out of Portland recently for the California Spray-Chemical Corporation's $5 million plant at Kennewick, Wash.

Harold Matson, Calspray's northwest manager, said the large tank will help engineers put the Kennewick area plant into production on liquid fertilizers by the end of February. The plant began production of ammonium nitrate in November and is expected to be producing complex mixes, a blended plant food, in April of 1960, according to Mr. Matson.

Calspray began construction of the plant in the spring of 1959 at the site near Finley, Wash., where Phillips' Petroleum has its 17 million dollar NH_3 ammonia plant.

Gunderson Bros. engineering plant, who built the tank, said it, together with a smaller hopper-type tank, cost about $30,000 and took some 60 days to build. It was loaded on a barge and will travel by water more than 200 miles to the Kennewick site.

USDA Clears Label

MIDDLEPORT, N.Y.—The U.S. Department of Agriculture has cleared the Thiodan label for use on all types of beans for the control of Mexican bean beetle, and for four more potato pests—aphids, leafhopper, fleabeetle and Colorado bean beetle—reported the Niagara Chemical Division of Food Machinery & Chemical Corp. In addition, the company says, the product is approved for use on aphids on melons, cucumbers, summer squash and winter squash.

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2. CONTROL WEEDS
3. PLANT and
4. FERTILIZE

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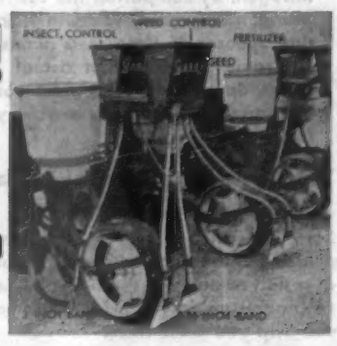

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Insure your "profit bushels" against crop robbers such as soil insects and weeds in the row.

Granular chemicals accurately metered with a GANDY Row Crop Applicator take care of either one, or both, of these two crop robbers.

Use a GANDY Applicator for weed control or insect control . . . or tandem mount two units for combination weed control and insect control.

- **PRECISION BUILT** to accurately meter and properly place granular insecticides in a 3 inch band . . . weed control chemicals in a 14 inch band on the row . . . at rates of from 8 ounces to 30 pounds per acre.
- FITS 1, 2, 4, 6 and 8 ROW PLANTERS.
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NEW PRATER REPRESENTATIVE—Three staff members of the Wolverine Elevator Service of Chesaning, Mich. (left to right), Wendell Wilcox, Bill Moline and Bob Hunt, are congratulated by Bill Earl, sales manager of Prater Pulverizer Co., Chicago, on Wolverine's recent appointment as Prater's Michigan sales representative. Wolverine Elevator Service has been in millwright and construction work in the Michigan area for the last 15 years.

Wild Oat Herbicide Set for Spring Sales

KANSAS CITY, MO.—"Carbyne," Spencer Chemical Co.'s wild oat herbicide, will be sold on a limited basis this spring to selected farmers in both the U.S. and Canada. This announcement by Spencer follows approval of the herbicide by the U.S. and Canadian Departments of Agriculture for trial use on specified crops in 1960. Names of the companies which will distribute Carbyne were also announced.

The status of the new herbicide in the two countries is this:

Canada Carbyne is recommended for wild oat control in spring wheat, the major Canadian crop infested with this weed. It is now recommended for application to spring wheat and barley at the rate of ½ to 1 lb. per acre and to sugar beets at 1 lb. per acre. It will be distributed in Canada by Chipman Chemicals Ltd. and United Grain Growers.

U.S.—Recommended for trial use on spring wheat, barley and sugar beets. Application rates are recommended at ½ lb. per acre on spring wheat and barley and 1 lb. per acre on sugar beets. U.S. distributors for the product will be Agsco, Inc. of Grand Forks, N.D., and Peavey Elevators, a division of F. H. Peavey & Co., Minneapolis, Minn.

LABEL CLEARED

NEW YORK—Sevin insecticide has been granted label acceptance by the U.S. Department of Agriculture for use on roses and other ornamentals, according to R. H. Wellman, manager of Crag Agricultural Chemicals, Union Carbide Corp. He said small packages containing Sevin will be on garden supply dealers' shelves early this spring. "We will sell basic Sevin to established packagers of home garden pesticides, who will furnish their own branded products to garden supply dealers," Mr. Wellman added.

Georgia Groups Meet; Information Exchanged

ATHENS, GA.—A number of representatives of the Georgia Plant Food Educational Society assembled in Athens in mid-January for a joint meeting with the Georgia Section of the Agronomy Society of America and Soil Scientists of America.

The purpose of the joint session was the exchange of ideas and information, particular findings in fertilization in research work. It was pointed out that such information is helpful to fertilizer manufacturers and dealers in planning their fertilizer programs.

The agronomists and pathologists who attended the meeting were teachers, research scientists and extension workers from several installations in Georgia.

Citrus Pest Quarantine Amended; Surveys Dropped

SACRAMENTO — California's citrus pest exterior quarantine has been amended to remove the requirement of annual surveys for the presence of citrus canker disease in states of origin of citrus fruit shipped to California.

Since there has been no record of citrus canker disease in the U.S. since 1943 the surveys are no longer considered necessary.

Master permits admitting citrus fruits to California, issued by the California Department of Agriculture to agricultural officials in Florida and Texas also were revised. In the future, citrus fruits prepared for interstate movement need not be treated for surface pests before shipment to California.

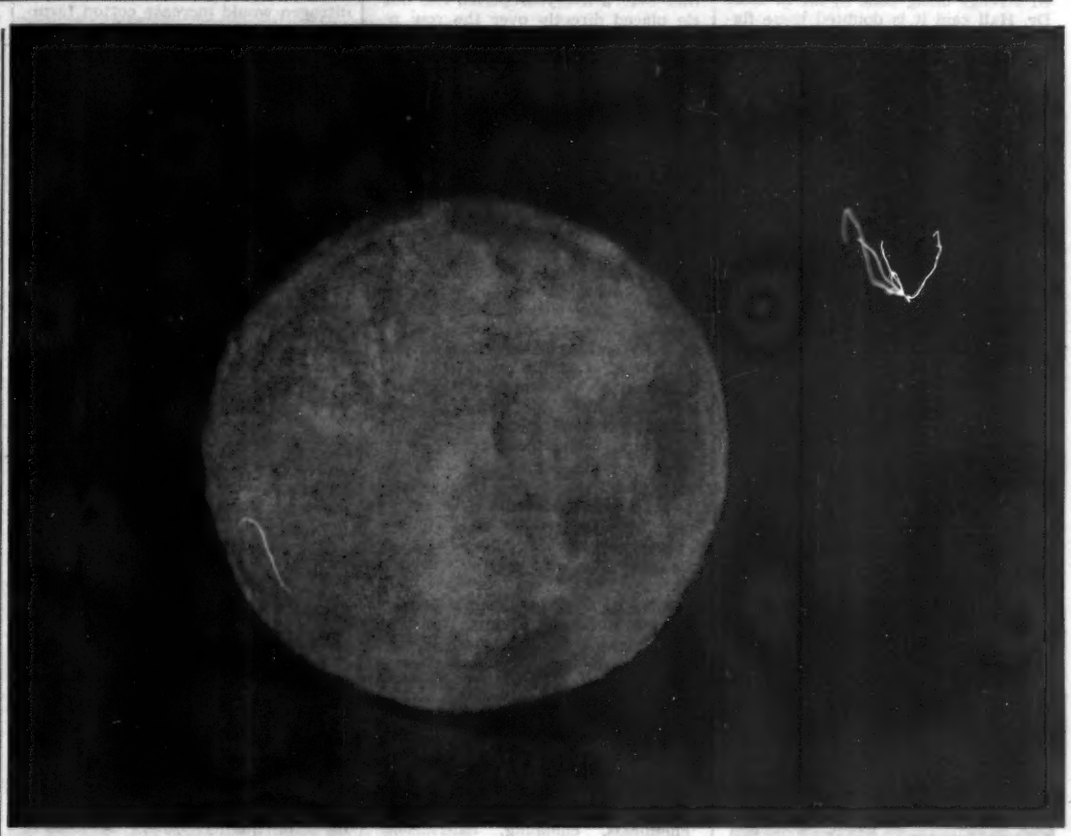
FARM POLICY DISCUSSED

ALBANY, N.Y. — Gov. Nelson A. Rockefeller got his dander up in discussing the Eisenhower farm program.

Addressing the New York State Agricultural Society at its annual meeting in Albany, the governor said the $400,000 increase asked by the administration for technical and other assistance to farmers was not enough. A "much more substantial increase" should have been provided, he said.

He said many communities, which had made "very promising starts on self-help with a bare minimum of federal support," now need "more extensive outside help so they can move forward to truly significant improvement."

The governor also noted that the administration proposal to retire 60 million acres of farmland and put it into the soil bank was exactly what he, the governor, recommended recently in a speech in Minneapolis.



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COTTON

(Continued from page 1)

nual loss caused by the boll weevil.

Dr. Wayne C. Hall, Texas A&M College, told the conference that use of chemicals as an aid in harvesting cotton showed a striking growth during 1952-58 despite steadily declining acreages. He reported that use of harvest-aid chemicals moved from 10% of the cotton acreage in 1952, to 18% in 1955, and jumped to 40% in 1958. Acres in cotton declined from 25.9 million in 1952 to 11.8 million in 1958.

Another striking feature, the speaker said, was the general decrease in use of dust defoliants and the increase in spray defoliants and desiccants. Use of dusts has declined in the far West and desiccants have increased in the Southwest.

Aerial application still dominates with approximately 64% of the treated acreage being done by air in 1958. Dr. Hall said it is doubted these figures indicate an advantage of aerial applications over ground machines in effectiveness. "It is more a matter of economics and convenience," he said.

Dr. Hall said the reasons often cited for using harvest-aid chemicals are to: (1) Improve grade, (2) prepare for machine stripping, (3) improve harvesting efficiency, and (4) control boll rots and second growth.

Reasons given for poor or unsatisfactory results included improper use or application, poor timing, regrowth, and use of insufficient gallonage and poor coverage with the airplane.

That improved methods of pesticide application have played an important part in insect control in cotton, was pointed out by Lambert H. Wilkes of the Texas Agricultural Experiment Station. He described some of the studies now under way in this field, and stated that better methods of application are still needed. Even with as many as 15 to 20 insecticidal applications in a growing season, cotton farmers are still losing millions of bales each year to insects.

Describing investigations now in progress, Mr. Wilkes said studies in Texas have resulted in recommendations of simple nozzle arrangements and low gallonage rates to Texas farmers.

"Studies showed that equally effective control of insects could be obtained by timely applications with two gallons of total spray as compared with 14 gal. an acre, provided the same amount of active ingredients was applied," he said. "Further work at this station has disclosed that over a five-year period one nozzle placed directly over the row resulted in equal insect control and yields as compared with more complex arrangements employing up to three nozzles per row."

Mr. Wilkes pointed out that other experiment stations were conducting similar studies on methods of pesticide applications. He described work being carried on at the Arkansas Experiment Station and at the Delta Branch Experiment Station, Stoneville, Miss.

The significant part played by weed control in cotton production was also emphasized. Harris H. Barnes, Jr., general farm manager of King and Anderson, Inc., Clarksdale, Miss., told the group that "the hoe must go." He said more economical mechanical and chemical methods of weed control must be adopted in cotton production.

"On every hand we see costs rise year after year," he said, "and to keep alive in the cotton business, we must cut our production costs and try every means available to increase our yield per acre so that our cost per pound of lint will be lowered."

Citing figures to point up the added production costs of hand chopping, Mr. Barnes estimated that hand chopping the some 1,460,000 cotton acres in Mississippi would cost farmers more than $20 million a year.

"Whereas our chopping and cultivations are costing us about $30 an acre," he said. "I firmly believe this figure can be cut in half. This would cover all costs, including chemicals, chopping, cultivation, and flame cultivation.

"Hand hoeing has been necessary and essential in making a cotton crop, but the new day dawns when we must look forward to the complete mechanization of the cotton crop with machines and chemicals."

Before the hoe can go, however, a weed control program must be perfected that is practical, fast, dependable, and inexpensive, according to Mr. Barnes.

Indications are that 1960 will be a really important year for the use of chemicals as weed control agents for cotton, according to Dr. Walter K. Porter, Jr., Louisiana State University, who addressed the conference.

"This is the year in which the greatest push will be made toward use of herbicides for the reduction of hand labor, reduction of weed-cotton competition, reduction of mechanical efforts, and reduction of weed contamination in the harvested production," he said.

He presented weed control information compiled from USDA and state experiment stations in cotton producing states.

At present, pre-emergence practices are suggested or recommended to some degree in all cotton-producing states except the far West. In 1960, herbicidal oils will be the only post-emergence early season chemical practice recommended.

"The future of the cotton industry will depend largely on the proper use of fertilizer to cut unit costs of production and to increase net income. The farmer who uses good production practices, including the needed fertilizer, can grow cotton in competition with synthetics," Dr. Niven D. Morgan, agronomist with the American Potash Institute, Shreveport, La., told the Beltwide cotton conference.

"Most costs other than fertilizer, harvesting and ginning are approximately the same regardless of yield," Dr. Morgan said. "Therefore, low yields mean high production costs per pound of lint and little or no profit."

He pointed out that fertilizer is a major item in lowering unit production costs and cited the following examples:

1. In Georgia it has been estimated that an additional 97,000 tons 4-12-12 fertilizer and 10,400 tons of extra nitrogen would increase cotton farmers' income more than $24 million above the extra fertilizer costs.

2. In California on highly productive soils, the addition of $16 worth of fertilizer reduced the production cost per pound of lint from 19¢ to 16.9¢ and increased the profit per acre from $95.96 to $149.69.

Also cited were Louisiana experiments showing fertilizer not only decreases the cost per pound of lint, but also shows greater profits from use of fertilizer. "Also in many cases it is the return from fertilizer which insures many other production costs," the speaker said.

MORE CUSTOMER SATISFACTION SPREADING PROFITS with the FIPPS SPREADER

- Spreads area up to 40 feet wide.
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WEED MEETING

(Continued from page 1)

merce has come up with a list of what growers consider their most bothersome plant pests.

In delivering his progress report to the conference, J. Earl Coke, San Francisco, committee chairman, touched on many of them. Johnson grass headed the list on cultivated crop land while on non-cultivated crop land, puncture vine received the "most disliked" rating.

Others which came in for their share of criticism were morning glory, water grass, Bermuda grass, yellow star thistle, pigweed, mustard, wild oats, Medusa head and halogeton.

All take their toll, some by affecting crop quality, others by making harvesting more difficult, carrying disease, poisoning livestock or interfering with the flow of ditch water.

The conference elected as president, Stanley S. Strew, Kentfield, sales manager of the Colloidal Products Co. He succeeds C. Bruce Wade, Redding, Shasta County agricultural commissioner.

Other newly elected officers are Oliver A. Leonard, assistant botanist, University of California, Davis, vice president; William Hopkins, Santa Clara, American Chemical Products Co., Niles, secretary, and Charles C. Siebe, La Puente, district supervisor, Bureau of Rodent and Weed Control, California Department of Agriculture, treasurer.

Fresno was selected for the 1961 conference to be held Jan. 24, 25 and 26. The conference will be held in San Jose in 1962, in Santa Barbara in 1963 and will return to Sacramento for the fifth time in 1964.

SOUTH CAROLINA SALES

CLEMSON, S.C.—Sales of fertilizer in South Carolina for the six months ending Dec. 31, 1959, amounted to 104,903 tons, or 21.8% less than the similar period in 1958, reported B. D. Cloaninger, director, fertilizer inspection and analysis, Clemson College.

FOREIGN TRADE SERVICE AVAILABLE

WASHINGTON—How components of the agricultural chemicals industry can use to advantage the services of the Department of Commerce's Trade Missions Program is told in a recent issue of Foreign Commerce Weekly, a publication of the department.

The publication explained that a trade mission—which consists of a department official and three or four U.S. businessmen — meets individually with thousands of local businessmen during its stay in a particular country. These discussions place team members in a position to serve as a media for dissemination of information about any business proposal an American firm has to "sell" abroad.

These proposals, which contain a description of products, services, investment, import or export opportunities, plant establishment or licensing, are publicized through pamphlets, press releases and word-of-mouth to businessmen in the country the trade mission is visiting. Whenever a businessman of a foreign country visited expresses a bona fide interest in a business proposal, he is given the name and address of the appropriate American company and is requested to contact the firm directly.

Businessmen interested in participating in the Trade Mission Program are requested by the Department of Commerce to communicate with the nearest field office of the department or with the Trade Missions Division, U.S. Department of Commerce, Washington 25, D.C.

Arizona Group Reports Success of Bollworm Fight

PHOENIX, ARIZ.—The Arizona Cotton Growers Assn. has reported to the state legislators that the fight to eradicate the pink bollworm menace made strong progress during 1959, thanks to a $500,000 appropriation by the legislature to help do the job.

A letter to Rep. David Campbell of Maricopa showed the program cost $1,649,000, with the Arizona Agriculture Commission providing $384,000; cotton growers, $465,000; and the U.S. Department of Agriculture, $800,000.

About 140,000 acres were calculated last January as needing treatment. Some 10,000 acres still are infested, with only a very small part of that acreage within the treated area.

The association said at least two more years of careful work must be done, but it appears sufficient funds will be on hand for this year's phase of the project. However, the group said the State Agriculture and Horticulture Commission may not have sufficient funds to employ extra personnel required by this year's activity.

This notation, couched in the success of last year's program, appeared to be an appeal to the lawmakers to provide the State Agriculture and Horticulture Commission with enough money to employ the extra workers needed.

Harold S. McCormick Announces Retirement

NEW YORK—The retirement of Harold S. McCormick, after a 49 year career in the fertilizer and feed business has been announced by H. J. Baker & Bro., Inc. Mr. McCormick, however, will continue in a consultant capacity with the company.

Starting his career in 1911 as an office boy with H. J. Baker, Mr. McCormick was executive vice president of the company at the time of his retirement.

CONFERENCE

(Continued from page 1)

tion figures, he showed the volume of chemicals taken from the area in the crops that would have to be replaced, and how much need there is in future crop production.

The group heard a report on hop fertilizer practices from John Keene, Yakima County agent, and Cal Skotland, experiment station agronomist, Prosser, and a similar report from Bob Van Keuren of the Prosser station on forage and pasture fertilization tests recently conducted.

Mr. Van Keuren said proper use of fertilizers was producing 900 to 1,000 pounds of beef per acre.

Another Prosser agronomist, Emil Nelson, spoke on corn fertilization. Using a formula of 1.4 to 1.5 lb. nitrogen a bushel, he said that yields were largely dependent on the nitrogen used.

The afternoon session was given over to the business of selling fertilizers, credit, employee relations, distribution and handling costs and a talk by Dr. R. L. Luckhardt, Collier Carbon & Chemical Co., Los Angeles, on "Who Makes the Money from Fertilizers?"

Dr. Luckhardt said the dealers had an obligation to help the farmer understand the real place of fertilizers in his farm program. He used an example of four men—manufacturer, distributor, dealer and farmer—and pointed out that if each successive step in the process of fertilizer production and use returns a 5% profit, the manufacturer would make $4.50 on $90 per ton NH_3; the distributor could make $8 selling at $160; the dealer could make $8; but the farmer could realize a 50% increase in yields and his profit would be $131 a ton. "Without the fertilizer, he might not get any profit," he added.

Other afternoon speakers were O. Conway Adams, manager of the Pasco Credit Bureau; Robert Jones, Norkem manager at Yakima; Lyle Neff and Scott Hanson, and Todd Tremblay, Northwest representative of the National Plant Food Institute.

A similar meeting was to be held at Spokane Friday, Jan. 29.

South Dakota Areas Threatened by 'Hoppers

BROOKINGS, S.D.—Grasshoppers in 1960 may give farmers in some areas of the state trouble, said Bill Hantsbarger and Gale Mast, entomologists at South Dakota State College.

A survey of adult grasshoppers and egg pods made during 1959 indicates that farmers in the north central region, just east of the Missouri river and the northwest region of the state are in the areas classified as threatening to severe.

Most serious infestations include areas of Hughes, Sully, Potter, Walworth, Campbell, Edmunds, McPherson, Dewey, Perkins and Harding counties.

Mr. Hantsbarger suggested that farmers check field margins, fields, and conservation reserve lands carefully during the hatching period around the first of June, and watch for unusually heavy concentrations of young hoppers. Control at that time is easiest, he said.

Hooker Annual Report

NIAGARA FALLS, N.Y.—Record sales and earnings were reported by Hooker Chemical Corp. for fiscal 1959, the 55th year of the company's existence, in its annual report now being mailed to stockholders. All four company divisions participated in the increase, and sales of both chemicals and plastics were well sustained throughout the year despite the steel strike, Hooker reported. In their letter to shareholders, R. Lindley Murray, board chairman, and Thomas E. Moffitt, president and chief executive officer, stated that net sales for the fiscal year ended Nov. 30, 1959, for Hooker and its consolidated subsidiaries, totaled $149,817,496, a 19.3% increase over 1958 sales of $125,545,515, and 16.7% higher than 1957, the best previous year for the combined companies. Net income, after provision for U.S. and Canadian income taxes, amounted to $13,401,636. This was equal, after preferred dividends, to $1.80 per common share and represented an increase of 25.9% over the 1958 net income of $10,639,438, or $1.43 per common share.

MANAGER DIES

GULFPORT, MISS.—Funeral services were conducted Jan. 20 for Nathan Ebenezer Gaston, 69, manager of the Gulfport Fertilizer Co. for 13 years.

Craig R. Robinson | Donald B. Moen | C. Paul Davis

NEW SALESMEN—The appointment of three new salesmen to operate in the state of Illinois has been announced by M. W. Mawhinney, manager of the Smith-Douglass fertilizer plant in Streator, Ill. The appointees are Craig R. Robinson, Donald B. Moen and C. Paul Davis. Both Mr. Robinson and Mr. Moen are natives of Iowa and graduates in agronomy from Iowa State University. The former will service dealers in Kankakee, Will, Dupage, Cook and Kane Counties. Mr. Moen is assigned Livingston, Woodford, McLean and Tazewell counties. Mr. Davis, a native of Illinois, was graduated from the University of Illinois. He will work in the counties of Iroquois, Ford, Vermillion, Champaign and Piatt.

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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Midwestern states.

CRITICAL TIMES . . .

Adequate Food, Public Health, Industry's Future, All Involved in Current Decisions

CURRENT ARGUMENTS and discussions about the economics and public health aspects of pesticides are likely to be with the trade for a long time. A blaze flared out of the smoldering situation when the cranberry fiasco emerged at Thanksgiving time, and the flame continues to flicker as new developments come about.

It is refreshing to hear at least occasional sensible and reassuring statements from responsible people who know what they are talking about in the matter of pesticides and foods. One such recent calm appraisal came from Dr. Donald E. H. Frear, professor of agricultural and biological chemistry at the Pennsylvania State University.

"Practically no food can be grown commercially and economically today without the use of pesticides," he asserted in a bulletin describing the growth of the agricultural chemical industry. "Without farm chemicals," he said, "farmers might not be able to produce enough to keep starvation away from our doors . . . it is that serious a matter."

As proof of this statement, Dr. Frear reported that the yearly crop of apples would be only 5% of what it now is, if chemicals were not used to control apple maggot and the codling moth. "Such a national decrease in apple output could increase sharply the cost of fruit. This would mean that fewer families could afford apples at the resulting higher prices."

Dr. Frear's statement reviewed the pesticide industry's development during the past century, tracing its advancement from the days of paris green through Bordeaux mixture and the recent organic products. Today, he indicated, pesticides are indispensable.

Three reasons account for the increasing need for these products, he points out. They are importation, specialization and "accustomization." Rapid and worldwide transportation has resulted in the importation of many destructive insects and plant diseases within a relatively short time.

"With farmers going in for intense production with high cost-per-acre crops, insects or plant diseases that would destroy even a small part of the crop must be eliminated. This calls for more and better chemicals.

"Forty years ago, we cut the worm out of the apple and ate the good part remaining. Today, it is unthinkable to a housewife to buy wormy apples. We have become so accustomed to perfection in farm products that we won't accept anything less. Modern chemicals have helped the farmer to produce the wormless apple and the perfect vegetable."

★ ★ ★

COMMENT IN THE pesticide trade in reaction to the setting of a zero tolerance on heptachlor reveals considerable concern as to possible future judgments of similar nature. A new factor appears in the heptachlor case, since the residue involved is not of the actual insecticide, but rather, of a conversion product, heptachlor epoxide. Will there be additional findings of this nature with other products? That is one of the critical questions being puzzled over by industry people just now.

Naturally, the setting of a zero tolerance will not completely stop use of this particular product since it has other applications where it is not involved with either food or forage crops. But the implication is clear—that further investigations are likely on other compounds, and it is possible that similar findings might be made. Next time the pesticide in question may have little or no other application beyond food and feed crops. What then? Must it be abandoned?

These are serious considerations for the pesticide industry to weigh. The question revolves around the finality of a tolerance setting. In other words, if a product is cleared by USDA and FDA, is the axe still liable to fall? This leaves the industry in a potentially precarious position at best.

One of the rather ridiculous sidelights on the heptachlor situation is the fact that if a crop harvested in the 1960 season contains a residue of up to 0.1 ppm of heptachlor, it is cleared for use and presumably will be harmless to consumers if the pesticide had been applied up to Jan. 18, 1960. If the same residue, or even less than 0.1 ppm should remain after a crop had been treated on Jan. 19 or any day thereafter, it would not be cleared.

Did the toxic properties of heptachlor become greater with the flip of a calendar page?

Replace Plant Food Losses!

AS THE FERTILIZER sales season comes on apace, it is well right now to gather selling facts for presentation when the customers start talking business.

Probably many farmers believe that much of the fertilizer put on crops in 1959 will still be available for the 1960 crop. This is partially true, but possibly not to the extent they may think.

The Kentucky Agricultural Experiment Station did some testing of burley tobacco crops a couple of years in a row and found some rather significant things. They wanted to determine how much fertilizer was carried off in the burley sold by the grower, and how much remained on the farm after the crop was removed.

Here's what C. E. Bortner and James Hamilton found in the survey:

> **The plants removed about 199 lb. nitrogen an acre from the land. Of this 199 lb., 55% of the nitrogen was in the marketable portions sold by the farmer, leaving 45% "on the farm"; about 33 lb. phosphate, of which 45% was in the marketed portions, leaving 55% on the farm; 340 lb. potash, of which 52% was in the portion sold, leaving 48% on the farm; and 357 lb. lime (calcium and magnesium carbonate) of which 72% was sold, leaving 28% on the farm.**

These nutrients left "on the farm," however, were not always useful—unless the farmer put it back on the land. Most of the remaining nutrients were in the stalks, a portion of the plant which sometimes is burned or carted off and destroyed. In such cases, the plant food in these stalks is lost to the farm, the researchers said.

And what does this mean to the fertilizer salesman? It points out that an adequate fertilization program must be carried out each year if soil fertility is maintained year after year.

It is trite but true, that the soil's nutritional level is like a bank account. Eventual bankruptcy faces the owners of acres whose "outgo" is always greater than the income of plant nutrients. Many farmers, strangely enough, must be reminded of this fact each year. It is up to the salesman to act as the reminder.

Croplife's Home Office

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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop area) basis with a mailing schedule which covers consecutively, one each week, three geographic regions (South, Midwest and West) of the U.S. On the fourth week, production personnel in fertilizer manufacturing and pesticide formulating plants throughout the U.S. are covered in depth. To those not eligible for this controlled distribution, Croplife's subscription rate is $5 for one year ($8 a year outside the U.S.). Single copy price 25¢.

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Feb. 10-12—Fertilizer and Lime Conference, Pennsylvania State University, Nittany Inn, University Park, Pa.

Feb. 11—Conference on Use of Agricultural Chemicals, Oregon State College, Corvallis.

Feb. 19—Intermountain Meadow and Range Fertilization Conference, Colorado State University Student Union Bldg.

March 2-6—Annual Southern Safety Conference, Robert Meyer Hotel and George Washington Hotel, Jacksonville, Fla.

April 11-12—Eighth annual California Fertilizer Assn. Conference, sponsored by CFA Soil Improvement Committee, Fresno State College, Fresno, Cal.

Sept. 29-30—Northeast Fertilizer Conference, Hotel Hershey, Hershey, Pa.

Oct. 5-6—Southeast Fertilizer Conference, Atlanta Biltmore Hotel, Atlanta, Ga.

Oct. 17-21—48th annual National Safety Congress, Fertilizer Section, LaSalle Hotel, Chicago.

Nov. 13-15—California Fertilizer Assn., 37th annual meeting, del Coronado Hotel, Coronado, Cal.

Meeting Memos listed above are being listed in this department this week for the first time.

Feb. 1-5—Utah Fertilizer Dealers' Schools: Feb. 1, Richfield; Feb. 2, Provo; Feb. 3, Roosevelt; Feb. 4, Ogden; Feb. 5, Tremont.

Feb. 3-4—Pest Control Operators' School, North Carolina State College, Raleigh, N.C.

Feb. 3-4—Illinois annual fertilizer industry conference, University of Illinois, Urbana.

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Feb. 4—New Pesticide Review for Northern California, Recreation Hall, University of California, Davis, Sponsored by the Western Agricultural Chemicals Assn. and the Entomology Club of Northern California.

Feb. 4—Executive Committee Meeting, National Safety Council, Fertilizer Safety Section, New Florida Hotel, Lakeland, Fla.

Feb. 4-5—Soil Science Society of North Carolina, third annual meeting, Williams Hall, N.C. State College, Raleigh.

Feb. 8-9—Southwestern Branch, Entomological Society of America, Hilton Hotel, El Paso, Texas.

Feb. 8-9—Twenty-Second Annual Meeting, National Cotton Council of America, Statler-Hilton Hotel, Dallas, Texas.

Feb. 9-10—Utah Fertilizer Industry Conference: Feb. 9, Provo; Feb. 10, Ogden.

Feb. 9-11—Seventh Annual Agricultural Chemicals Conference, Texas Technological College, Lubbock, Texas.

Feb. 9-11—Southern Regional Liquid Fertilizer Conference, Rock Eagle 4-H Club Center, Eatonton, Ga.

Feb. 10-12—Midwestern Chapter, National Shade Tree Conference, Annual Meeting, Sheraton-Fontenelle Hotel, Omaha, Noel B. Wysong, 536 N. Harlem Ave., River Forest, Ill., Secretary-Treasurer.

Feb. 11-12 — Midwest Agronomists-Fertilizer Industry meeting, Edgewater Beach Hotel, Chicago, Ill.

Feb. 16-17—Agricultural Pesticide Conferences. Feb. 16, Francis Scott Key Hotel, Frederick, Md.; Feb. 17, Elks' Home, Salisbury, Md., Dr. L. O. Weaver, dept. plant pathology, University of Maryland, College Park, chairman.

Feb. 17-18, 23-25—Indiana Ammonia Service School; Feb. 17, Lafayette; Feb. 18, Bedford; Feb. 23, Valparaiso; Feb. 24, Ft. Wayne; Feb. 25, Muncie.

Feb. 17-18—Pest Control Conference, Alabama Polytechnic Institute campus, Auburn, Ala. Sponsored by A.P.I. and the Alabama Association for Control of Economic Pests.

Feb. 22-25—Weed Society of America meeting, in conjunction with Western Weed Conference, Cosmopolitan Hotel, Denver, Colo.

Feb. 23-24—Ninth annual Pesticide Chemicals School, Clemson House, Clemson College, Clemson, S.C.

March 22-23—Western Agricultural Chemicals Assn., spring meeting, Miramar Hotel, Santa Barbara, Cal.

March 23-25—North Central Branch, Entomological Society of America, Schroeder Hotel, Milwaukee, Wis.

March 30-31—Twenty-fourth annual meeting, Georgia Entomological Society, New Science Center, University of Georgia, Athens, Ga.

June 12-15—National Plant Food Institute annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 27-29—Pacific Branch, Entomological Society of America, Davenport Hotel, Spokane, Wash.

July 13-15—Eleventh Annual Fertilizer Conference of the Pacific Northwest, Hotel Utah, Salt Lake City; B. R. Bertramson, State College of Washington, Pullman, Wash., chairman.

July 27-29—Great Plains Agricultural Council, 1960 meeting, Laramie, Wyo.

July 27-30—Southwest Fertilizer Conference and Grade Hearing, Galvez Hotel, Galveston, Texas.

Dr. R. C. Back Promoted By Union Carbide

NEW YORK — Promotion of Dr. R. C. Back to manager, technical development, Crag Agricultural Chemicals, has been announced by Union Carbide Chemicals Co., Division of Union Carbide Corp. He will also serve as a member of the company's agricultural chemicals marketing committee.

Dr. R. C. Back

Development of technology concerning use of Sevin, Union Carbide's new-type insecticide, will continue to be Dr. Back's chief responsibility, along with technical development of other Crag agricultural products, the company said.

Dr. Back has been instrumental in bringing Sevin to the commercial marketing stage. The new insecticide was made available last year for use on cotton, apples, pears, peaches, beans, potatoes and certain other crops.

He joined Carbide in 1955 as entomologist for the agricultural chemicals development group. Previously, he conducted pesticide research for Boyce Thompson Institute for Plant Research, Yonkers, N.Y., and before that, he was employed by Ethyl Corporation, New York City.

Classified Ads

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I AM HARD WORKING COLLEGE GRADuate. M.S. in agronomy. Age 30, married, veteran. Farm background. Desire position in agricultural chemical sales. Address Ad No. 5597, Croplife, Minneapolis 40, Minn.

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EXPERIENCED, MATURE SALESMAN for national manufacturer, agricultural chemicals. Sales at distributor dealer levels, southern California and southern Arizona. Complete resume, age, education, experience and availability first letter. Address Ad No. 5494, Croplife, Minneapolis 40, Minn.

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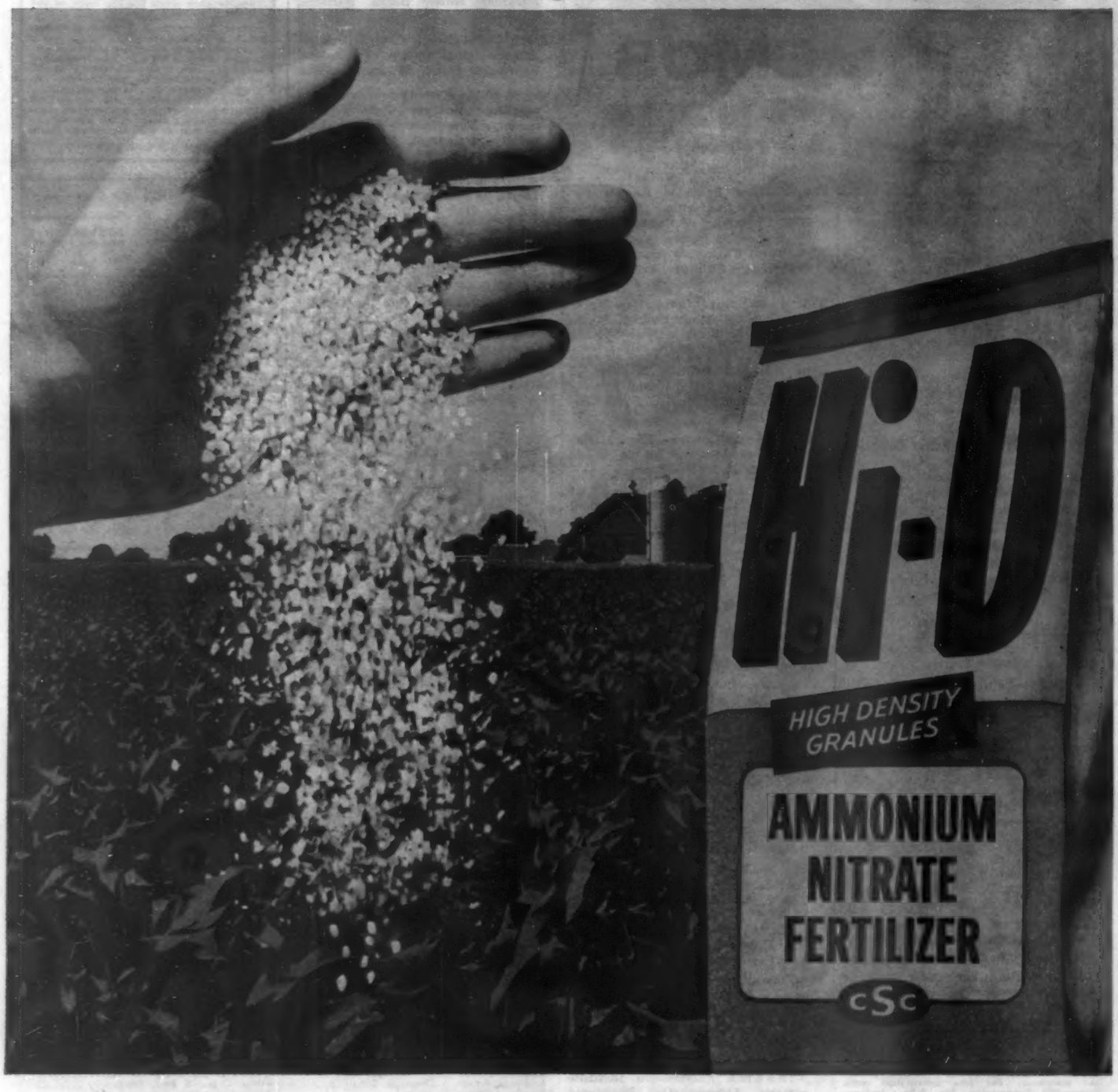
During the fertilizer season, advertisements like this in full color are appearing in Farm Journal, Farm & Ranch, Progressive Farmer, and Successful Farming.



Keeps crops on the grow

it's the ammonium nitrate that's granular!

Corn, cotton, wheat, pastureland – whatever your crop, Hi-D® is the nitrogen fertilizer to use. You'll find it better than any ammonium nitrate you ever used before.

Hi-D always flows freely! Hi-D's special granules are unusually high in density and super dry, have much less tendency to pick up moisture prior to application. You will find it most satisfactory out in the field, even under humid conditions. Hi-D doesn't gum-up, won't clog, cake or bridge in your spreader.

Hi-D has a guaranteed analysis of 33.5% nitrogen. Half of this is nitrate nitrogen for vigorous early growth. The other half is ammonia nitrogen for sustained follow-up feeding. Your crops get the two types of nitrogen they do best on!

Let Hi-D keep your crops on the grow. It's sound management. But remember, first test your soil, lime if necessary and follow with the mixed fertilizer your dealer recommends. Then add the supplementary boost of Hi-D. Ask your dealer for it by name. Hi-D—best in the land!

COMMERCIAL SOLVENTS CORPORATION, AGRICULTURAL CHEMICALS DEPARTMENT, 260 MADISON AVENUE, NEW YORK 16, NEW YORK
OFFICES IN ATLANTA, CHICAGO, CINCINNATI, CLEVELAND, DETROIT, KANSAS CITY, NEW ORLEANS, ST. LOUIS, STERLINGTON, LA.